

CATALOGUE NO. 22
Spring & Summer 1982

CABLE: GLENWOOD VANCOUVER

TEL: (604) 984-5444

GLENWOOD TRADING COMPANY LTD.

Electronics Specialists

278 EAST 1st STREET, NORTH VANCOUVER, B.C. V7L 1B3

OPEN 9:00-4:30 MON.-FRI. (except holidays)

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GLENWOOD IS WHERE IT'S AT IN CANADIAN HAM RADIO.

A SUPERLATIVE NEW TRANSCEIVER FROM KENWOOD

- Dual Digital VFO's with Automatic Step Selector
- General Coverage Receiver 150Khz to 30Mhz
- Full Break-in/Semi Break-in Switch
- Variable Bandwidth Tuning
- SSB Slope Tune Control
- Low Distortion Final Power Amplifier
- Optional Automatic Antenna Tuner (Dealer Installed)
- RIT Control
- Speech Processor
- VOX
- AF Tune
- Noise Blanker
- 8 Channel Memory
- IF Notch Filter

TS-930S

TS-930SAT (WITH AUTOMATIC ANTENNA TUNER) \$2299 YG455-C1 \$147 YK-88C-1 \$83
 TS-930S \$2099 AT-930 \$279 SP-930 \$119 YG-455-C1 \$169 YK-88CN-1 \$83



TS-930S (HF Transceiver)

(GENERAL)

Transmitter Frequency Range:	160m band 1.8-2.0MHz 80m band 3.5-4.0MHz 40m band 7.0-7.3MHz *30m band 10.1-10.15MHz * Receiving only. (Transmission on these bands is possible with a small modification.)
Receiver Frequency Range:	150kHz-30MHz
Mode:	A3J (LSB, USB), A1 (CW), F1 (FSK), A3 (AM)
Antenna Impedance:	50 ohms, 20-150 ohms with antenna tuner (TX only)
Power Requirement:	120/220/240V AC, 50/60Hz
Power Consumption:	TX = 510W (Max.) RX = 80W
Dimensions:	374(15.0")W x 141(5.6")H x 350(14.0")D mm (inch)
Weight:	18.5kg (40.7 lbs) approx. (with antenna tuner) 16.8kg (37.0 lbs) approx. (without antenna tuner)

(TRANSMITTER)

Final Power Input:	SSB/CW = 250W, FSK = 250W, AM = 25W (Output Power)
Carrier Suppression:	Better than 40dB
Unwanted Sideband Suppression:	Better than 50dB
Harmonic Radiation:	Less than -40dB
Audio Frequency Response:	400-2,800Hz, within -6dB
Modulation:	SSB = Balanced modulation AM = Low level modulation (IF stage)
FSK Shift Width:	170Hz
Third Order Intermodulation Distortion:	Less than -31dB
Microphone Impedance:	500 ohms and 50k ohms

SPECIFICATIONS

(RECEIVER)

Circuitry:	Quadruple conversion system
Intermediate Frequency:	1st IF = 44.93MHz 2nd IF = 8.83MHz 3rd 455kHz
Sensitivity (at 10dB S/N):	4th IF = 100kHz 150-500kHz: Less than 0dBu (1uV) for SSB, CW and FSK Less than 20dBu (10uV) for AM 500kHz-1.8MHz: Less than 12dBu (4uV) for SSB, CW and FSK Less than 30dBu (32uV) for AM 1.8MHz-30MHz: Less than -12dBu (0.25uV) for SSB, CW and FSK Less than 6dBu (2uV) for AM More than 60dB More than 70dB
Image Ratio:	SSB, CW, FSK, AM (N) = 2.7kHz (-6dB), 4kHz (-80dB) AM (W) = 6kHz (-6dB), 18kHz (-60dB)
IF Rejection:	Variable Bandwidth: SSB Slope Tune = High-cut; more than 1,500Hz Low-cut; more than 700Hz
Selectivity:	CW VBT = 600Hz-2.4kHz (continuously variable without optional filter) Within 30Hz during any 30 minutes period after warmup. Within ±200Hz during the first hour after 1 minute of warmup, ± 1 × 10⁻⁵ or better (at normal temperatures)
Frequency Stability:	Frequency Accuracy: R/T Variable Range: Dynamic Range: Intercept Point: Notch Filter Attenuation: Audio Output Power:
Frequency Accuracy:	± 9.89kHz 100dB (With 500Hz filter) +10dBm (at 14.175MHz)
R/T Variable Range:	More than 40dB (When beat frequency is 1.5kHz)
Dynamic Range:	More than 1.5W / 8 ohms (with 10% distortion)
Intercept Point:	
Notch Filter Attenuation:	
Audio Output Power:	

THE INCREASINGLY POPULAR TS-830S



TS-830S FEATURES:

Variable bandwidth tuning (VBT)

Continuously varies the IF filter passband width to reduce interference. VBT and IF shift can be controlled independently for optimum interference rejection in any condition.

IF notch filter

Tunable high-Q active circuit in 455-kHz second IF, for sharp, deep notch characteristics.

IF shift

Shifts IF passband toward higher or lower frequencies (away from interfering signals) while tuned receiver frequency remains unchanged.

Various IF filter options

Either a 500-Hz (YK-88C) or 270-Hz (YK-88CH) CW filter may be installed in the 8.83-MHz first IF, and a very sharp 500-Hz (YK-455C) or 250-Hz (YK-455CH) CW filter is available for the 455-kHz second IF.

SSB monitor circuit

Monitors IF stage while transmitting, to determine audio quality and effect of speech processor.

6146B final with RF NFB

Two 6146B's in the final amplifier provide 220 W PEP (SSB)/180 W DC (CW) input on all bands. RF negative feedback provides optimum IMD characteristics for high-quality transmission.

More flexibility with optional digital VFO

VFO-230 operates in 20-Hz steps and includes five memories. Also allows split-frequency operation. Built-in digital display. Covers about 100 kHz above and below each 500-kHz band.

Built-in RF speech processor

For added audio punch and increased talk power in DX pileups.

RIT/XIT

Receiver incremental tuning (RIT) shifts only the receiver frequency, to tune in stations slightly off and low noise figure in the balanced mixer; a frequency. Transmitter incremental tuning (XIT) shifts only the transmitter frequency.

Adjustable noise-blanker level

Built-in noise blanker eliminates pulse-type (such as ignition) noise. Front-panel threshold level control.

\$1289

Built-in digital display

Six-digit large fluorescent tube display, backed up by an analog dial. Reads actual receive and transmit frequency on all modes and all bands. Display Hold (DH) switch.

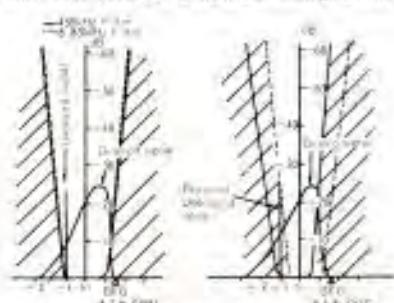
160-10 meters, including three new bands

Covers all Amateur bands from 1.8 to 29.7 MHz (LSB, USB, and CW), including the new 10, 16, and 24-MHz bands. Receives WWV on 10 MHz.

Wide receiver dynamic range

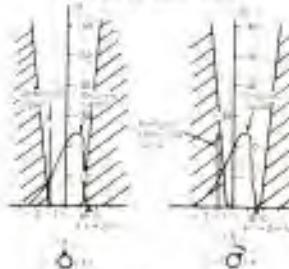
Junction FETs (with optimum IMD characteristics not needed because of low noise in mixer), dual resonator for each band, and advanced overall receiver design result in excellent dynamic range.

How VBT (Variable bandwidth tuning) works



- Passbands of both the 8.83-MHz and 455-kHz IF filters are made to intersect, in an equivalent sense, to obtain a narrow-bandwidth filter response. See how the unwanted signal is rejected from the passband thus obtained.
- In cases where interference from adjacent signals isn't too serious, signal-to-noise ratio may be improved by narrowing proportionally the IF passband width, as the noise content theoretically varies with bandwidth.
- The variable bandwidth tuning (VBT) filter circuit in the TS-830S is so designed that the center frequency of the passband may be set to the desired point by adjusting or by an IF shift, irrespective of the amount of bandwidth changed.

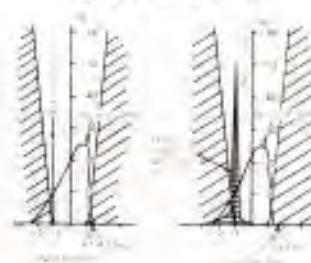
How an IF shift works



- Shown here is an undesired signal being rejected by upshifting (↑) the IF passband. Elimination of undesired signals by an IF shift is simple in operation.

- In CW, coupled with RIT, a variable pitch is obtainable; in SSB, the signal may be tuned to suit your requirement.

How the IF notch works



- The tunable notch filter in the TS-830S offers a satisfactorily sharp notch response.

TWO PROVEN PERFORMERS PRICED BELOW \$1000!!

TS-530S

\$989



TS-530S FEATURES:

Narrow/wide filter combinations

Any one or two of three optional filters—YK-88SN (1.8 kHz) SSB, YK-88C (500 Hz) CW, YK-88CN (270 Hz) CW—may be installed for selecting (with "N-W" switch) wide and narrow bandwidths on CW and/or SSB.

Wide receiver dynamic range

Greater immunity to strong signal overload, with MOSFET RF amplifier operating at low level for improved IMD characteristics, junction FETs in balanced mixer with low noise figure, and dual resonator for each band.

Built-in speech processor

Combines an audio compression amplifier with change of ALC time constant for extra audio punch and increased average SSB output power, with suppressed sideband splatter.

160-10 meter coverage, including three new bands

Transmits and receives (LSB, USB, and CW) on all Amateur frequencies between 1.8 and 29.7 MHz, including the new 10, 18, and 24 MHz bands. Receives WWV on 10 MHz.

Built-in digital display

Large, six-digit, fluorescent-tube display shows actual receive and transmit frequencies on all modes. Backed up by analog subdial.

IF shift

Moves IF passband around received signal and away from interfering signals and sideband splatter.

Advanced single-conversion PLL system

Improved overall stability and improved transmit and receive spurious characteristics.

RIT/XIT

Front-panel RIT (receiver incremental tuning) shifts only the receiver frequency, for tuning in stations slightly off frequency. XIT (transmitter incremental tuning) shifts only the transmitter frequency, for calling a DX station listening off frequency.

Adjustable noise-blanker level

Pulse-type (such as ignition) noise is eliminated by built-in noise blinder, with front-panel threshold level control.

RF attenuator

The 20-dB RF attenuator may be switched in for rejecting IMD from extremely strong signals.

Two 6146B's in final

Runs 220 W PEP/180 W DC input on all bands.

TS-130S

\$969



TS-130 Series Features:

80-10 meters, including three new bands

Covers all Amateur bands from 3.5 to 29.7 MHz, including the new 10, 18, and 24-MHz bands. Receives WWV on 10 MHz. VFO covers more than 50 kHz above and below each 500-kHz band.

Two power versions...easy operation

TS-130 runs 200 W PEP/160 W DC input on 80-15 meters and 160-10 W PEP/140 W DC on 12 and 10 meters. TS-130V runs 25 W PEP/20 W DC input on all bands. Solid-state, wideband final amplifier eliminates transmitter tuning, and receiver wide-band RF amplifiers eliminate preselector peaking.

Built-in speech processor

Increases audio punch and average SSB output power, while suppressing sideband splatter.

Built-in VOX

For convenient SSB operation, as well as semi-break-in CW with sidetone.

CW narrow/wide selection

"N-W" switch allows selection of wide and narrow bandwidths. Wide CW and SSB bandwidths are the same. Optional YK-88SN (1.8 kHz) or YK-88CN (270 Hz) filter may be installed for narrow CW.

SSB narrow selection

"N-W" switch allows selection of narrow SSB bandwidth to eliminate QRM, when optional YK-88SN (1.8 kHz) filter is installed. (CW filter may still be selected in CW mode.)

Sideband mode selected automatically

LSB is selected on 40 meters and below, and USB on 30 meters and above. SSB REVERSE position is provided on the MODE switch.

Built-in digital display

Six-digit green fluorescent-tube display indicates actual operating frequency to 100 Hz. Also indicates external VFO or local-channel frequency, RIT shift, and CW transmit/receive shifts. Also analog subdial for backup frequency indication.

**SAVE
\$40**

Effective noise blinder

Eliminates pulse-type interference such as ignition noise.

Built-in 25-kHz marker

Accurate frequency reference for calibration.

Compact and lightweight

Measures only 3-3/4 inches high, 9-1/2 inches wide, and 11-9/16 inches deep, and weighs only 12.3 pounds. It is styled to enhance the appearance of any fixed or mobile station.

IF shift

Moves IF passband to be moved away from interfering signals and sideband splatter.

Single-conversion PLL system

Improves stability as well as transmit and receive spurious characteristics.

Built-in RF attenuator

For optimum rejection of intermodulation distortion.

A COMPLETE LINE OF MATCHING ACCESSORIES FOR THE TS-830S AND TS-530S.

SP-230

TS-830S

VFO-230

AT-230



\$89

\$1289

\$419

\$279

SP-230 External Speaker

The SP-230 external speaker matches the TS-830S HF transceiver.

It is a low-distortion speaker with selectable frequency response for high intelligibility in any mode. The frequency response is determined by the built-in audio filters, which are effective in improving signal-to-noise ratio under certain interference conditions, or when receiving weak signals.

On the front panel is a headphone connector, for listening to audio output passed through the filters. Also on the front panel is a switch for selecting either of two audio inputs to the SP-230.

SPECIFICATIONS

* Maximum Input (nominal): 2W * Impedance: 8Ω * Frequency Response: 300 Hz to 5 kHz * Filter Cut-off Frequency: Low = 400 Hz/-3 dB, High 1 = 3 kHz/-3 dB, High 2 = 1.5 kHz/-3 dB, High 3 and High 2 = 1.0 kHz/-3 dB * Filter Attenuation Characteristic: -6 dB/Oct. * Dimensions: 180 (7.2W) x 133 (5.3) x 287 (11.5D) mm (inch) * Weight: 1.8 kg (4.0 lbs)

CW FILTERS

FOR THE TS-830S



YG-455C

500 Hz CW filter for 455 kHz IF

YG-455CN

250 Hz CW filter for 455 kHz IF

YK-BBC

500 Hz CW filter for 8.83 MHz IF

YK-BBCN

270 Hz CW filter for 8.83 MHz IF

\$147.00

YK-BBCN SB NARROW FILTER 1.8 MHZ

YK-BBCN CW NARROW FILTER 270 Hz

YK-BBC CW FILTER 500 Hz

\$83 EACH

FOR THE TS-530S



VFO-230 Digital Remote VFO

The VFO-230 digital VFO provides maximum efficiency and flexibility for all operating conditions, including split-frequency operation, by combining a 20 Hz step digital VFO with five memories.

FEATURES:

* 20 Hz step digital VFO: Provides excellent stability and smooth tuning on CW and SSB * Five Memories: Frequency can be transferred from VFO (transceiver or VFO-230) to memory or from memory to digital VFO (VFO-230) * Built-in digital display: Shows digital VFO or memory frequencies. The display range is selected automatically to cover 900.0-999.9 or 499.0-499.9, according to the band, selected by an analog switch with 1.0 Hz divisions. * Cross-operation flexibility: Easy-to-operate function switch provides: RST, CTCSS, TRAP, 4000 Hz noise, Memory, Main, RIT, MARS, RMT, and 1000 Hz CW digital VFO, MEMO, Memory, T-F SWL switch. Allows operator to set transmit frequency quickly. * Memory search and memory programming: Prevents transmitting on wrong frequency during split-frequency operation. * Expand frequency coverage: About 1000 kHz above and below each 500 kHz band, for MARS and other applications. * Lock search: To prevent accidental frequency change. * MAIN, RMT, and MEMO indicators: LEDs show functions in operation. * Capability with TS-830S, TS-830B, TS-130, and TS-120 Series.

SPECIFICATIONS

* Oscillating Frequency: 5.4-6.1 MHz * Frequency Stability: $\pm 1 \times 10^{-8}$ 20 Hz (at normal temperature), 3×10^{-8} 20 Hz (0-50°C) * Output Voltage: 0.2V ±3 dB, 1dB * Power Requirement: 120V AC (modifiable to 220V AC), 50/60 Hz, 12W * Dimensions: 180 (7.2W) x 133 (5.3H) x 287 (11.5D) mm (inch) * Weight: 3.1 kg (6.8 lbs)



\$419

VFO-240 Remote VFO

The VFO-240 remote analog VFO is a valuable, yet affordable station addition for split-frequency operation, temporary QSY and fast return to a net frequency, searching for a clear frequency, and other applications.

FEATURES

* T-F R/T switch: allows operator to set transmit frequency quickly; reverses transmit and receive frequency momentarily, to prevent transmitting on wrong frequency during split-frequency operation. * Cross-operation function switch * R/T control MAIN and R/T indicators.

SPECIFICATIONS

* Oscillating Frequency: 5.5-6.0 MHz * Oscillator Circuit: Modified class A * Output Voltage: 0.2 V ±1dB * Frequency Stability: Within 100 Hz per 30 minutes after 3 minutes warm-up * Solid-state Components: FET, 2 Transistor, 2 Diodes, 6 * Power Source: From: TS-830S * Dimensions: 180 (7.2W) x 133 (5.3H) x 287 (11.5D) mm (inch) * Weight: 2.4 kg (5.3 lbs)

AT-230 Antenna Tuner

The AT-230 antenna tuner includes the new three bands and functional features such as a through-line wattmeter, SWR meter and antenna selector switch.

The AT-230 greatly adds to the effectiveness of your station.

SPECIFICATIONS

* ANTENNA COUPLER: * Frequency Range: 9 amateur bands from 1.8 to 30.0 MHz * Input Impedance: 50 Ω * Out put Impedance: 50 to 600 Ω, unbalanced * Through Power: 200 W max. (SWATTMETER) * Type: Through line wattmeter * Frequency Range: 1.8 to 30 MHz * Measurable RF power: Up to 20/250 W continuous * Kinds of RF Power: Forward and reflected power, switched * Impedance: 50 Ω * Accuracy: Better than 10% of full scale (SWR METERS) * SWR detection: Toroidal core directional coupler * Measurable SWR: 1.1 to 10 * Net Power Required: 2 W (GENERAL) * Connectors: INPUT: UHF type, 50 Ω * Connectors: ANT-1: UHF type, ANT-2: UHF type, ANT-3: RG-58 antenna only * GND: GND * Dimensions: 180 (7.2W) x 133 (5.3H) x 287 (11.5D) mm (inch) * Weight: 3.4 kg (7.5 lbs)

SP-230

TS-530S

VFO-240

AT-230



\$89

\$1289

\$239

\$279



\$279

LINEAR AMPLIFIERS



TL-120

FEATURES

- Compact (8.8" x 10") HF linear amplifier with medium power available down to 10 meters. The TL-120V (175 PS-30) can be used as an alternate power source!
- High efficiency final section with a switch for full and half load operation.
- Q condenser protection system:
 - (a) SWR detection type protection
 - (b) Hotline over temperature protection
 - (c) Output transformer over temperature protection
 - (d) Protection against harmonics in operation
- Front panel LED indication for DUAL-BAND and FREQUENCY.
- STBY switch to turn off all of the TL-120. Selection of HIGH or LOW power is available with no warm-up delay required.
- Provided with terminals to measure the collector current (IC) of the final stage.
- 1512EV line panel terminal for remote control and power ON/OFF for the TL-120V.
- Grounded fan filter.

What makes one linear amplifier different than all the rest? Check out these features:

Full amateur band coverage — Includes 160 meters.

Instant heating filaments — The 3-500Z tubes require no warm up period. Just turn it on and go!

Time delay fan circuit — Even after you turn the TL-922 off, the super quiet fan continues to work for approximately 2 minutes to greatly extend tube life.

Adjustable ALC output voltage — Lets you tailor the ALC voltage to your exciter.

Standby position — Provides amplifier bypassing without having to turn the AC power off.

Two independent safety interlocks — One disconnects AC line voltage and the second shorts B+ to ground when tripped.

Vernier plate control — For smooth, easy tune-up.

Diecast side panels — Includes functional carrying handles for easy transportation.

Thermal protection of power transformer — Amplifier automatically switches to standby if power transformer temperature exceeds 145°F.

Tuned input Circuit — Means improved spurious characteristics.

Line voltage selector — Easily switched between 120 and 240 VAC.

Plate Current Meter — Separate meter allows continuous monitoring of plate current.

A NEW 25 WATT AMPLIFIER FOR THE TR-2500

2M FM POWER AMPLIFIER VB-2530



\$129

 **KENWOOD**

HF LINEAR AMPLIFIER SO-10 METER/200W PEP INPUT

SPECIFICATIONS

Frequency Range	3.5 MHz - 30 MHz
Drive Power	100 Watts
Rated Collector Input	3.5 - 21 MHz
	20 MHz
Output Impedance	50 ohms
Power Consumption	150W DC
AC Line Surge Voltage	110V DC
Dimensions	12.5" W x 18.5" H x 7.5" D
Weight	22 lbs (10 kg)

\$329

TL-922

3-500Z TUBES (USES TWO)



\$1399
without tubes

SHIPPED FREIGHT COLLECT

SPECIFICATIONS

- Frequency Range: 160 meter band—1.8 to 2.0 MHz, 80 Meter band—3.5 to 4.0 MHz, 40 meter band—7.0 to 7.3 MHz, 20 meter band—14.0 to 14.35 MHz, 15 meter band—21.0 to 21.45 MHz, 10 meter band—28.0 to 29.7 MHz • Mode: SSB, CW, RTTY • Drive power: 80 Watts or more for full output • RF Input Power: SSB: 2,000 Watts PEP, CW, RTTY: 1,000 Watts DC • Circuitry: AB2 Class "B" Grounded-grid Linear Amplifier • Input Impedance: 50 ohms • Output Impedance: 50 to 75 ohms • Tubes: EIMAC 2 x 3-500Z • Dimension: 390 (15-3/8")W x 190 (7-1/2")H x 407 (16")D mm (inch). • Weight: 31 kg (68 lbs)

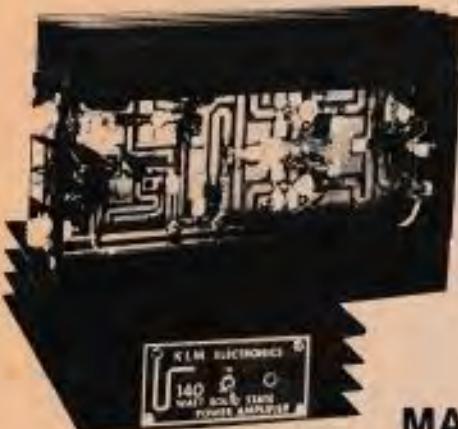
BUILT-IN SWR PROTECTION CIRCUIT LARGE HEAT SINK 25W OUTPUT

VB-2530 SPECIFICATIONS

- | | |
|---------------------------|---|
| Transmit Frequency Range: | 144.000 - 147.995MHz |
| Mode: | F3 |
| RF Output Power: | 25W (at 13.8V DC and 50 ohms antenna impedance) |
| Drive Input: | 2.5W |
| Input Impedance: | 50 ohms |
| Antenna Impedance: | 50 ohms |
| Spurious Radiation: | Less than -60dB |
| DC Current (with TR-2500) | Less than 5A (13.8V DC, switch ON position) |
| Power Supply: | 13.8V DC ± 15% |
| Grounding: | Negative |
| Dimensions: | 75 (3.0) W x 46 (1.9) H x 170 (6.8)D mm (inch) |
| Weight: | 600g (1.3 lbs.) approx. |

DOC REGULATIONS NOW REQUIRE THAT PURCHASERS OF LINEAR AMPLIFIERS COMPLETE SCHEDULE IV. PROSPECTIVE PURCHASERS SHOULD ENCLOSURE A COMPLETED COPY OF THIS FORM WITH THEIR ORDER. THESE FORMS ARE AVAILABLE FROM YOUR LOCAL DOC OFFICE OR ON REQUEST FROM GLENWOOD.

LINEAR AMPLIFIERS



KLM electronics

FREQ.	MODEL NUMBER	PWR INPUT (WATTS)	NOM. PWR OUTPUT (WATTS)	NOM.* CURRENT (AMPS)	PRICE
144-148	PA 15-40BL	5-15	40	5	\$209.00
144-148	PA 15-80BL	5-15	80	10	\$329.00
144-148	PA 15-160L	5-15	140	15	\$449.00

*AT 13.5 VDC. L DENOTES LINEAR

MA-35BL for 2 meters

Linear Bias

- all-mode operations, AM, FM, SSB, CW
- third order IMD better than 30 dB below 35W PEP output (EIA Standard)

RF Keyed T/R relay

- KLM bias circuit reduces SSB switching distortion
- adjustable drop-out delay for SSB
- keys with less than 100mW drive

Compact: 3" x 6 1/4" x 2 1/4"

Up to 40 Watts OUT

• more than 11dB gain

Broadband response ... 143-149 MHz

• less than 1.5:1 Input VSWR

Receive Preamp

- more than 9 dB gain, 144-148 MHz
- better than 2.5 dB N.F.

Built-in Battery Charger

- overcharge protection (auto-cycling)
- adjustable up to 12VDC



\$189

High Frequency Amplifier

	CI-110	\$239	CI-VHF-150	\$479
Frequency Range	3-32 mhz		142-149 mhz	
Power Input	255 Watts		255 Watts	
Average Power Output	130 Watts @ 60% efficiency		110-150 Watts	
D.C. Supply Voltage	13.8 volts @ 20 amps negative ground		13.8V D.C. @ 24 amps	
A.C. Exciter Signal Drive	4-10 Watts		10-30 Watts	
Input Impedance	50 ohms unbalanced		50 ohms unbalanced	
Output Impedance	50 ohms unbalanced into loads not exceeding 31 swr			
Harmonic Levels	-45 db or better		-60 db	
Operating Modes	AM, FM, CW, SSB, RTTY and slow scan TV		FM, CW, AM and SSB	
Receive Pre-Amp	Nominal gain of 10 db at less than 2 db noise		9 db gain	
Physical Dimension	5" x 7" x 3" (12.7 x 17.8 x 7.6 cm)		6" x 12 1/4" x 2 1/4" (15.2 x 31.8 x 6.3 cm)	
Weight	2.5 lbs (1.136 kgs)		3.52 lbs (1.6 kgs)	

- ALC circuit to prevent overloading
- 160 thru 10 meters
- 1000 watts DC input on CW, RTTY or
SSTV Continuous Duty
- Variable forced air cooling system
- Self-contained continuous duty power supply
- Two EIMAC 8875 external anode ceramic/
metal triodes operating in grounded grid
- Covers MARS frequencies without modifications
- 50 ohm input and output impedance
- Built-in RF wattmeter
- 117V or 234V AC 50-60 Hz
- Third order distortion down at least 30 db
- Frequency range:
1.8-3.5 MHz (3.4-4.6)
7 MHz (6.0-7.1)
14 MHz (11.0-16.0)
21 MHz (16.0-22.0)
28 MHz (28.0-30.0)
- 40 watts drive for 1 KW DC input
- Rack mounting kit available (11U rack)
- Size: 5W" H x 14" W x 14" D. Wt. 47 lbs.



CLEARANCE PRICED
\$1399.00

ANTENNA TUNERS

MFJ

MFJ 941C Versa Tuner II



Fastest selling MFJ tuner... because it has the most wanted features at the best price.

SWR + dual range wattmeter (300 & 30 watts full scale, forward and reflected power). Sensitive meter measures SWR down to 5 watts output.

More flexible antenna switch selects 2 coax lines, direct or through tuner, random wire/balanced line, or tuner bypass for dummy load.

12 position efficient airwound inductor for lower losses, more watts out.

Built-in 4:1 balun for balanced lines. 1000V capacitor spacing.

Matches everything from 160-10 meters: dipoles, inverted vees, random wires, verticals, mobile whips, beams, balanced and coax lines.

Easy to use, anywhere. Measures 8x2x6", has SO-239 connectors, 5-way binding posts. finished in eggshell white with walnut-grained sides.

\$139

MFJ-16010 RANDOM WIRE TUNER lets you operate all bands — 1.8 to 30 MHz — with a simple random wire. Up to 200 watts RF OUTPUT.

Operate all bands — anywhere, with any transceiver — using a random wire and an antenna tuner small enough to carry in your hip pocket. Ultra compact 2x3x4 inches.

Operate from your apartment with a wall. It will antenna, or motel room with a wire dropped from a window. Enjoy ham radio in a camping or backpack trip with a wire thrown over a tree. Pre-

pare for an emergency. Take it on a Dixieption or Day. One year unconditional guarantee.

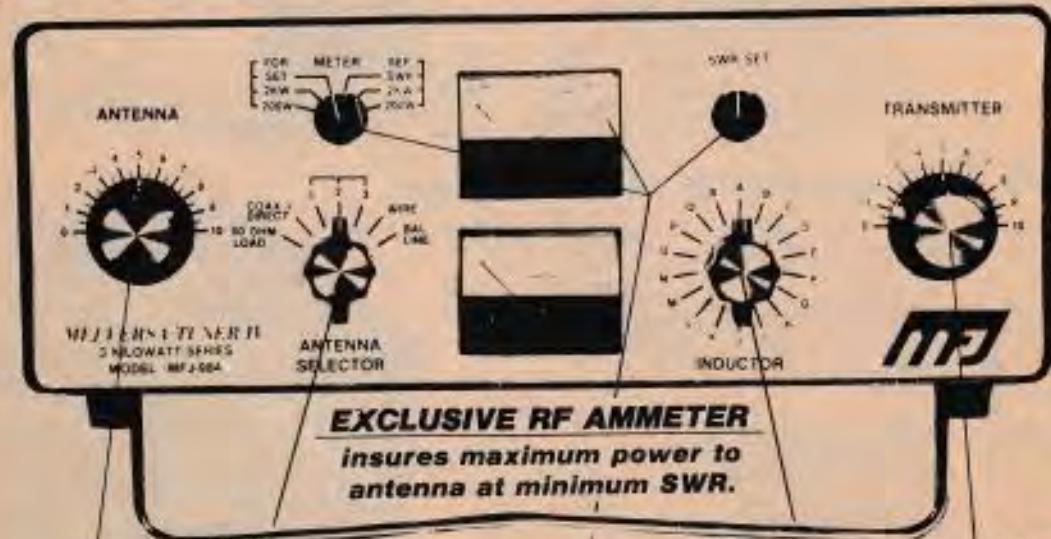
Match low and high impedances by interchanging input and output. SO-239 coax connectors.



* Operate all bands with a simple random wire.

\$69

NEW MFJ DELUXE 3 KW Versa Tuner IV



Antenna matching
Capacitor: 500 pF,
6000 volt spacing.

7 Position Antenna Switch: Select
2 coax thru tuner and 1 thru, or
direct or random wire, balanced line
or built-in 50 ohm dummy load.

**Read SWR, Forward
and Reflected Power**
in 2 ranges (2000
and 200 watts).

**18 Position Dual
Inductor: 17 Amp
Ceramic Rotary Switch.**

Transmitter Matching
Capacitor: 500 pF,
6000 volt spacing.

This is MFJ's best 3 KW Versa Tuner IV. The MFJ-984 Deluxe 3 KW Versa Tuner IV gives you a combination of quality, performance, and features that others can't touch at this price.

PERFORMANCE: You can run up to 3 KW PEP and match any feedline continuously from 1.8 to 30 MHz coax, balanced line or random wire.

FEATURES: A **10,000 RF ammeter** insures maximum power to antenna at minimum SWR.

A separate meter gives SWR, forward, reflected power in 2 ranges (2000 and 200 watts).

A flexible antenna switch lets you select 2 coax lines thru tuner and 1 thru or direct, or

random wire, balanced line or dummy load.

A 200 watt 50 ohm dummy load lets you tune your exciter off air for peak performance.

All metal, low profile cabinet gives RFI protection, rigid construction. Black. Anodized aluminum front panel. 5x16x14 in.

A flip stand fits tuner for easy viewing.

Efficient, **4:1 balun, 250 pF**,
6000 volt capacitors, 18 position dual inductor,
17 amp ceramic rotary switch, 2½ meters,
SO-239 coax connectors. Ceramic leadthru for
random wire, balanced line. Binding post for ground.

QUALITY: Every single unit is tested for performance and inspected for quality. Solid American construction, quality components.

\$499



... pacesetter in amateur radio

ANTENNA TUNERS

AT-130

\$189

The AT-130 is a compact and lightweight antenna tuner designed for base or mobile use. (Includes the new three bands).

SPECIFICATIONS

(Antenna Coupler) • Frequency Range: 8 amateur bands from 3.5 to 29.7 MHz • Input Impedance: 50Ω • Output Impedance: 20 to 300Ω, unbalanced • Through Power: 150W max. (13.5 MHz band, 120W) • Insertion Loss: Less than 0.5 dB at optimum match (SWR Meter) • Frequency Range: 3.5 to 29.7 MHz • Max. Power: 150W • Measurable Range: 1:1 to 10:1 • Min. Power Required: 2W (General) • INPUT Connector: UHF type (50Ω) • ANT Connector: UHF type (50Ω) GND: Wing nut and STUD • Dimensions: 152 (6.1W) x 89 (2.4H) x 150 (4.9D mm (inch)) • Weight: 1.6 kg (3.5 lbs) approx.



AT-230



\$279

The AT-230 antenna tuner includes the new three bands and functional features such as a through-line wattmeter, SWR meter and antenna selector switch.

The AT-230 greatly adds to the effectiveness of your station.

SPECIFICATIONS

(ANTENNA COUPLER) • Frequency Range: 9 amateur bands from 1.8 to 30.0 MHz • Input Impedance: 50 ohms • Output Impedance: 10 to 500 ohms, unbalanced • Through Power: 200-watts max. (WATTMETER) • Type: Through line wattmeter • Frequency Range: 1.8 to 30.0 MHz • Measurable RF power: Up to 20/200 watts, switched • Kinds of RF Power: Forward and reflected power, switched • Impedance: 50 ohms • Accuracy: Better than ±10% of full scale (SWR METER) • SWR detection: Toroidal core directional coupler • Measurable Range: 1:1 to 10 • Min. Power Required: 4 watts (GENERAL) • Connectors: INPUT: UHF type, 50 ohms • Connectors, ANT-1: UHF type; ANT-2: UHF type; ANT-3: Wire antenna only; GND • Dimensions: 180 (7.2W) x 133 (5.3H) x 287 (11.5D mm (inch)) • Weight: 3.4 kg (7.5 lbs)

ANTENNA TUNER, SWR-PWR METER, ANTENNA SWITCH AND DUMMY LOAD COMBINATION

KW 107 Supermatch



KW-107

\$259

The KW e-Zee Match is designed to provide an improved system of matching between a Transmitter output or Receiver input and an antenna system. The unit covers bands 10-80 meters inclusive and enables resistive loads from 15 ohms to 5,000 ohms to be matched. Reactive components in an antenna system can be considerably reduced and the standing-wave-ratio (S. W. R) improved. This will also tend to improve results when dealing with television interference (TV 1).

\$129

KW 107 ANTENNA TUNING SYSTEM

The KW range of aerial matching units will ensure optimum power transfer from the PA stage to the antenna system.

- Longer life for your PA tubes.
- KW 107, suitable for most transceivers and transmitters (250 watt rating).
- Antenna selection.
- RF power and SWR measurement.
- Dummy load incorporated.
- Observation of SWR with and without antenna tuner.
- Attractive "G" line case.



TEST AND MEASURING EQUIPMENT

Model 1000-A Wattmeter

The Model 1000-A Wattmeter measures RF power in 50 ohm coaxial cables and transmission lines. It accepts plug-in elements that range from 0.1 watt to 5000 watts full-scale, and from 2MHz to 1000 MHz.

The Wattmeter includes a built-in line section with connectors for $\frac{1}{2}$ " 50-ohm cables and transmission lines. The connectors may be male or female Quick Match connectors. To use the Wattmeter, simply connect it between the source of RF power and either an antenna or "dummy" load, plug in the appropriate measuring element, select the forward or reflected orientation of the element and read the results on the 4 $\frac{1}{2}$ " 3-scale display.

The Model 1000-A is a versatile Wattmeter. The built-in line section can be removed and used with accessory cables from 33' up to 200' from the meter. The meter unit is protected by a rugged, shock-proof housing. On the back of the meter are two sockets for storing extra measuring elements. Measuring elements for the Model 1000-A are ordered separately based on the accompanying table.



MODEL 1000-A WATT METER CASE 380.



\$219

DIELECTRIC

- Shock Mounted Meter
- 4 $\frac{1}{2}$ " Mirrored Scale
- 2 Year Warranty
- Quick Match Connectors
- Nickel Plated Plug-In Elements
- Accurate "Tout Band" Meter Movement

SPECIFY TYPE N OR SO-239 CONNECTORS.

Specifications: Model 1000-A

Power Range.....	0.1 W-5KW
Frequency Range.....	2-1000 MHz
VSWR.....	1.05:1 max., with N connectors
Accuracy.....	±5% of full scale
Impedance.....	50 ohms

PLUG-IN ELEMENTS

INTERCHANGABLE WITH BIRD MODEL 43 ELEMENTS.

Power Range	Frequency (MHz)
2-30	2004-2010
25-80	2011-2020
50-125	2021-2030
100-250	2031-2040
200-500	2041-2050
400-1000	2051-2060
5000 watts	2061-2070

MODEL NUMBERS

A FULL LINE OF RF COUPLERS AND TERMINATING LOAD RESISTORS ARE AVAILABLE. WRITE GLENWOOD FOR DETAILS

HAMRADIO TEST INSTRUMENTS



SPECIFICATIONS:

Measuring Method	Directional Coupler
Maximum Handling Power	1 KW
SWR Indication	1:1 - 3:1
Frequency Range	3.5 - 150 MHz
Circuit Impedance	50 ohm
Measuring Accuracy	RF Power ±20%
Connector	SO-239
Meter Sensitivity	SWR Meter 100µA F.S.D. POWER Meter 100µA F.S.D.
Accessories	Connector cable for illumination lamp. Magic fastener x 2, pcs.
Dimensions	160(W) x 70(H) x 65(D) mm
Weight	400 g.

FS-601 MH

PEAK POWER SWR METER

FS601MH 0 - 200, 2KW - 2ranges ±10%

\$89



Dimensions: 160(W) x 70(H) x 110(D) mm
Weight: 1 kgs

SWR-50B

\$43



\$19

SWR-3 VSWR AND FS METER

VSWR 1:1 - 1:3 ±5%
ANTENNA: 5' BAR ANT.
SIZE: 120 x 50 x 65 mm.



\$79

FS-301 POWER AND VSWR METER

2 SCALES: 0-20,200W + 7%
VSWR E:1:1-3 ±3%
FREQ. RANGE 1.8-30MHz
SIZE: 265 x 105 x 130 mm.



OSKERBLOCK

SWR-200B



\$97

SWR Meter

200 B

POWER Meter

Type: Directional Coupler
Ratio: 1:1 to 1:100 & 100:1
Frequency Range: 1 MHz to 200 MHz
Impedance: 50 ohms ± 10%
Full Scale Minimum Power:
100W at 3.5MHz
50W at 3.5MHz
15W at 14MHz
5W at 21.2MHz
1W at 93.144MHz

Type: Through Line
Power Range:
0-200W, 0-50W at 3.5MHz
0-100W, 0-20W at 14MHz
0-25W, 0-5W at 21.2MHz
Accuracy: ±15% at SWR 1.1
Safety Rating: 25W at SWR 1.1
100W at SWR 1.1
15W at 14MHz, 21MHz
5W at 27MHz, 28MHz
1W at 50MHz, 144MHz, 430MHz

Battery Sensitivity: 100V D.C.
Connections: M-Type or UHF Type S-120
Measurement: 10mV input 120mV output 220mA max. wide 2.5A peak ± 2% deep ± 1% max.

Weight: 1.25 lbs. (0.56kg.) net

SWR-300



\$119

MODEL SPC-6B 0-20W, 0-200W, at 50 MHz \$35
MODEL SPC-2B 0-20W, 0-200W, AT 144MHz \$35
MODEL SPC-07A 0-2W, 0-20W, AT 430MHz \$49



SPC-6B
Directional Coupler Type
Ratio: 1:1 to 1:100 & 100:1
Frequency Range: 5MHz to 300MHz
Add SWR & Power Coupler
Model SPC-6B: 50MHz to 60MHz
Model SPC-2B: 144MHz to 148MHz
Model SPC-07A: 430MHz to 450MHz
Impedance: 50 ohms
Full Scale Minimum Power:
10W at 3.5MHz, 7MHz
3W at 14MHz, 21MHz
0.7W at 27MHz, 28MHz
0.15W at 50MHz, 144MHz, 430MHz

Meter Sensitivity:

Model SPC-6B

Connectors:

D-Sub

Type

S-120

Dimensions:

9.5in

H x

220m

W x

113m

D

Weight:

1.45kg

(3.2 lbs.) net

\$450

DIGIMAX MODEL D1200

Temperature controlled ovens have long been the accepted industry standard for maintaining crystal controlled precision measuring instruments within frequency tolerance over a wider temperature range than is economically achievable using a TCXO (temperature compensated crystal oscillator) time base. Two objectional characteristics of these ovens are: 1. Bulk. 2. High current consumption. DMI technology and research has overcome these objections. Gone are versions of bulky current ovens. DMI presents its latest innovation: A 1 ppm proportional oven that not only operates from external power but from batteries as well. DMI's streamlined high accuracy low current proportional type 10 mHz oven out-modes all others.



Aging: 0 parts in 10¹⁰/month typ.
External output: 10 mHz TTL buffered.
External inputs: For 10 mHz TTL compatible.

INPUT IMPEDANCE

Non-preserved: 1 Meg in parallel with 25 pF
Prescaled: 50 ohms in parallel with 25 pF

SENSITIVITY (typical)

10 mV to 25 mV: 100 Hz to 25 MHz
10 mV to 20 mV: 25 MHz to 250 MHz
15 mV to 50 mV: 250 MHz to 1 GHz
2 BNC on rear panel: 50 OHM & 1 Meg

DISPLAY

9 LED readout with the following features:
Easy to read: 5 seven segment characters. Leading zero suppression assures error-free readings. Display blanking to minimize power consumption. When no signal is present first eight digits are blanked, ninth digit displays 1 or 0.

FREQUENCY RANGE (typical)

Non-preserved: 50 Hz to 50 MHz
Prescaled: 10 MHz to 1.2 GHz

RESOLUTION (selectable)

Non-preserved: 0.1 Hz, 1 Hz, 10 Hz
Prescaled: 10 Hz, 100 Hz, 1 KHz
8 VDC to 14.5 VDC
115 VAC with AC-12 ac adapter
Internal battery pack: 6 "C" cells
Optional rechargeable NiCad battery pack
Current requirements: 100-500 mA typ.

MODEL D500

\$219

with AC-12 ac adapter


INPUT IMPEDANCE

Non-preserved: 1 Meg in parallel with 25 pF
Prescaled: 50 ohms in parallel with 25 pF

SENSITIVITY (typical)

Non-preserved: 10 - 15 mV 100 Hz - 25 MHz
Prescaled: 10 - 15 mV 50 MHz - 250 MHz
15 - 50 mV 250 MHz - 450 MHz
25 - 75 mV 450 MHz - 1.0 GHz

DISPLAY 8 digit LED seven segment characters.
Leading zero suppression assures error-free readings.

RESOLUTION (selectable)

Non-preserved: 1 Hz, 10 Hz
Prescaled: 10 Hz, 100 Hz

FREQUENCY RANGE (typical)

Non-preserved: 50 Hz to 50 MHz
Prescaled D500: 30 MHz to 512 MHz
Prescaled D510: 30 MHz to 1 GHz

POWER REQUIREMENTS

8 VDC to 14.5 VDC 100 to 250 mA typ.
115 VAC with AC-12 ac adapter

ACCESSORIES

PORTABLE ANTENNA



\$60

Model 370-10 portable whip antenna

Designed especially for apartment dwellers and renters who cannot have a permanent antenna. This simple unit tunes the 2, 6, 10, 15, 20, and 40-meter amateur bands, as well as all 40 channels of the 27 MHz CB band. When properly adjusted to the operating frequency, VSWR is 1.1:1. Weighs less than 2 pounds, complete with base loading coils, coaxial feed line, and counterpoise. Disassembled for packing or storage, whip is only 22-1/2" long; mount is 14" long. Whip extends to 57".

Power rating is 300 watts CW and SSB.

Simple, quick, and dependable, the Model 370-10 can also be used as a portable emergency antenna. Mounts to almost any horizontal support with a simple clamp bracket. Set up your station in a hotel, motel, trailer, or on a boat. Keep a model 370-10 in reserve to get back on the air fast after that freak ice or wind storm.

*Loading coils not used for 6 meters or 2 meters.

MFJ-1020 NEW INDOOR ACTIVE ANTENNA
sits on your desk ready to listen to the world. Rivals, even exceeds reception of outside long wire. Unique Tuned Active Antenna minimizes intermod, provides RF selectivity, reduces noise outside tuned band. Also use as preselector for external antenna. Covers 300 KHz to 30 MHz. Four bands: 3-1, 1-3, 3-10, 10-30 MHz. Adjustable telescoping antenna. Controls: Tune, Band Selector, Gain, On-Off/Bypass, LED, FET, bipolar circuitry. 9.18 VDC or 9 V battery for portable use. Phono jack for external ant. 6x2x6 in.

**Rivals long
wires**

\$129



MFJ Dual Tunable SSB/CW Filter "Signal Enhancer"



MFJ-752B \$139

Dual filters give unmatched performance. The primary filter lets you peak, notch, low pass or high pass with extra steep skirts.

Auxiliary filter: 70 dB notch, 40 Hz peak. Both filters tune from 300 to 3000 Hz with variable bandwidth from 40 Hz to nearly flat. Constant output as bandwidth is varied; linear frequency control.

Switchable noise limiter for impulse noise. Simulated stereo sound for CW lets ears and mind reject QRM.

Inputs for 2 rigs, switch selectable. Plugs into phone jack. Two watts for speaker. OFF bypasses filter. 9-18 VDC, 300 mA.

ANTENNA SWITCH

VLF/MW/SWL Antenna Tuner

Greatly improves 10KHz to 30 MHz reception.

\$109



This MFJ-955 VLF/MW/SWL preselecting antenna tuner greatly improves reception of 10KHz thru 30 MHz signals, especially those below 2 MHz.

Lets you peak desired signals while rejecting interference. Reduces overload, background noise, crossmodulation, and intermodulation. VLF signals come roaring in.

Switch between two antennas and two receivers. Bypass position connects antenna directly to receiver. 5 1/2x2x3 inches. Black, eggshell white aluminum cabinet.



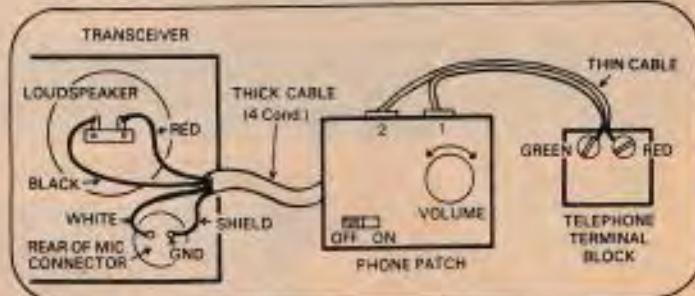
Push-button switch will connect any of 3 antennas to the transceiver.

Rated at 250W.

\$15

EL CHEAPO PHONE PATCH

\$12



L.P. FILTERS

NYE Viking LP filter



A 2 to 30 MHz 2 KW low pass filter that reduces TVI with less than 0.5 DB insertion loss. 52 ohm input - output.

***37**

Kenwood LF-30 A low pass filter

***37**

ROTORS



TAILTWISTER™

\$519



HAM IV™

\$359



CD 45

\$189



AR 40

\$149



SOUTH CENTRE KIT

MOUNTING PLATE KIT

\$14

STANDARD LOWER MAST SUPPORT

\$15

HEAVY DUTY LOWER MAST SUPPORT

\$45

Lightning Arrestor
Model LA-1

Originally designed to protect satellite masts from lightning strikes, the proven South LA-1 is the only lightning arrester on the market that will safely bypass up to ground 10 or more lightning strikes. Consider using LA-1 when no VHF whip is available. The LA-1 operates to reduce static voltage around the antenna and thus reduce the possibility of direct lightning strikes. ORDER NO. 229.



\$109

	AR40	CD45 II	HAM IV	T-X (Tailtwister)
ANTENNA WIND LOAD AREA CAPACITY				
Mounted inside tower	3.0 sq. ft. (0.28 sq. m.)	8.5 sq. ft. (0.79 sq. m.)	15.0 sq. ft. (1.4 sq. m.)	20.0 sq. ft. (1.8 sq. m.)
With optional H.D. lower mast adapter*	N/A	N/A	7.5 sq. ft. (0.70 sq. m.)	N/A
With standard lower mast adapter*	1.5 sq. ft. (0.14 sq. m.)	5.0 sq. ft. (0.46 sq. m.)	N/A	N/A
MOTOR TURNING POWER – Shaft torque				
550 in. lbs. (60 N.m.)	800 in. lbs. (92 N.m.)	800 in. lbs. (92 N.m.)	1000 in. lbs. (113 N.m.)	
BEARING ASSEMBLY – In lieu assembly of minimum external bearing accessories				
Dual Race 12 Ball Bearings	Dual Race 98 Ball Bearings	Dual Race 98 Ball Bearings	Triple Race 138 Ball Bearings	
BRAKE CONSTRUCTION – Brake assembly in place				
Motor Armature	Disc Brake	Disc Brake & Electric Wedge	Disc Brake & Electric Wedge	
BRAKE POWER – Amount of torque to hold antenna in place	450 in. lbs. (51.4 Nm)	800 in. lbs. (90 Nm)	5000 in. lbs. (565.4 Nm)	9000 in. lbs. (1017.4 Nm)

A MATCHING PAIR

KR-500 Elevation Rotator

KR-500 provides 180° boom rotation for antennas used in OSCAR, EME, etc. Heavy duty can be used with stacked arrays. Rotation, 1 min. for 180°. Limit switches. Motor disc brake holds to 1750 inch-pounds (2000 cm-KG).

Accommodates booms 1.25-1.625"D (31.75-41.27 mm), masts to 1.5-2.5"D (38-63.5 mm). Weatherproof. Attractive direction indicator. 115VAC, 50/60-Hz. Shipping wgt. 14 lbs. (6.34 KG).



\$249
+\$6 FREIGHT

FOR YOU SATELLITE BUFFS

KR-400 Azimuth Rotator

Medium duty rotator, supports 400 lbs (181 KG). Ideal for Long Boomers, HF Inbanders, VHF arrays. Motor disc brake same as KR-500, also limit switches. Rotation is 1 min.360°.

Accommodates masts 1.5-2.5"D (38-63.5 mm). Supplied with functional direction indicator. 115VAC, 50/60 Hz. Shipping weight is approx. 18 lbs. (8.16 KG).



*179
+\$6 FREIGHT

COAX, ROTOR, AND ANTENNA WIRE

Add \$2 per 100' for shipping, minimum charge \$1.

COAXIAL CABLES

NOMINAL ATTENUATION

	75¢/FT	Mhz	dB/100'
RG-8/u Foam	50	1.2	
	100	1.8	
	200	2.6	
	300	3.3	
	400	3.8	
RG-8/u Regular	100	2.0	
	200	3.0	
	300	4.7	
	400	7.8	
RG-213u Non-contaminating	100	2.1	
	200	3.1	
	300	6.0	
	400	8.8	

RG-58u SOLID CONDUCTOR



18¢/FT

100	4.1
200	8.2
300	9.5
400	14.5

RG-58Au STRANDED CONDUCTOR



21¢/FT

100	5.3
200	8.8
300	12.6
400	20.0

RG-8x MINIATURE FOAM



35¢/FT

100	3.0
200	4.5
300	6.0

ROTOR WIRE

8-CONDUCTOR

for CD45, HAM IV, T2X

etc.

42¢/FT



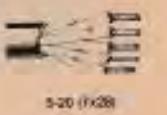
No. of Cond. - 8
AWG (in mm) -
6-22 (.7x30)
2-18 (.16x30) 11.19

5-CONDUCTOR

for AR-40, Big Talk

etc.

25¢/FT



5-20 (.7x28)

4-CONDUCTOR

for TV Rotors

20¢/FT



4-20 (.7x28)

NO. 14 STRANDED COPPER WIRE

8¢/FT



NEW, MOLDABLE PLASTIC COAX-SEAL®

Seals coax fittings from moisture
and corrosion

- Only material that will adhere to poly vinyl or vinyl outer coax jackets.
 - Forms and seals over odd shaped and difficult fittings.
 - Non-contaminating and non-conductive.
 - Wide ambient temperature range (-30°F to +180°F).
 - Stays flexible for years thus insuring moisture proof connections.
 - Reusable - allows you to quickly disconnect fittings and reseal them with the same material.
 - A must for satellite TV microwave work - wire antenna at solder joints in the shack.
- Packaged in convenient 1/2" x 60' roll.



*3

BALUNS



\$35



KW BAL-1

Designed for 50 ohm,
1 to 1 ratio and only 4 ozs.

\$30



\$29

Glenco BL-50A Balun 1.8 to 30 MHz
most popular balun we have, made in Japan 1 to 1 torroid balun

New deluxe version, 4000W P.E.P. dipole attachments only 5 1/2 oz.

FIVE BAND TRAP ANTENNA

80 Thru 10 Meters Highest Amateur Power, 50-ohm Impedance

Model 370-11
Pre-assembled antenna, 80-40-20-15-10 Meters. Only two top adjustments and terminations and ready to use.
Approximate length only: 110 feet.

All antennas include antenna wire, traps, 50 feet of RG-8/u coaxial cable and PL-299 connector, two end insulators, and a B&W Model CD-50 Dipole Center Connector. Traps weigh approximately 8 ounces each.



\$109

INSULATORS



*9

Model C1 Hy Gain
centre insulator for dipoles



*7

Model E1 Hy Gain end insulators
for dipoles per pair only



\$65

The antenna consists of a centre fed doublet with a 108' top and utilizes two resonant traps, one on either side of the feeder point and 65' apart. Between each trap and each end of the antenna is a length of wire 21 1/2' long. Each trap consists of a high 'Q' inductance, a capacitor specially designed to withstand high voltage, high circulating RF current, and is resonant on 7.1 MHz. The tensile strength of these traps has been tested to 350 lbs. and they are impregnated to withstand extreme weather conditions.

The traps act as insulators on 40 meters (7 MHz). On 80 meters (3.5-4.0 MHz) the traps act as loading inductances giving an electrical half-wave length on 80 meters. On frequencies higher than 7 MHz the traps act as series capacitors. By selecting the proper L-C ratio for the traps the antenna is made resonant on each of the amateur bands from 80 meters to 10 meters as shown in Table 1. On 160 meters, the antenna may be used as a top loaded Marconi by joining the inner and outer feeder connections together and loading against ground.

COAXIAL ANTENNA SWITCHES

Model 375 Coax Switch

Single Pole 6 position with grounding of all unused positions.
\$36 Axial mounted connectors.


Model 376 Coax Switch

Single Pole 5 position with grounding of all unused positions. Sixth switch position grounds all outputs.
\$36 Radial mounted connectors.


Model 590 Coax Switch

Single pole 5 position, non-grounding type switch. Axial mounted connectors.
\$36


Model 590G Coax Switch

Single Pole 5 position with grounding of all unused positions. Axial mounted connectors.
\$36


Model 592 Coax Switch

Single Pole 2 position switch, non-grounding.
\$32 Axial mounted connectors.


Model 593 Coax Switch

Single Pole 3 Position with grounding of all unused positions.
Power 1 KW-2 KW PEP
\$32 Impedance 50-75 ohms
Impedance 1.2:1 up to 150 MHz
VSWR 1.2:1 up to 150 MHz
Crosstalk (measured at 30 MHz) is -40 dB between adjacent outlets and -60 dB between alternate outlets
Dimensions 1-3/4" high, 5" wide, 3" deep
Weight 1 lb.
Mount Wall or desk


COAXIAL ANTENNA CHANGEOVER RELAY model 377

Economical and reliable. Can be operated from VOX circuit for completely automatic operation or from PTT or manual T/R switch. Receiver input is automatically grounded when the relay is in the Transmit position. Wide AC operating voltage range and low operating current.



Model 377

specifications

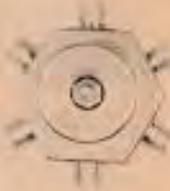
Power Rating	1000 watts CW (2000 watts SSB)
VSWR	Less than 1.15:1, DC to 150 MHz
Power Requirements	0.015 Amperes, 48 to 130 volts AC
Connections	UHF Type SO-239
Dimensions	3-1/2" x 1-1/2"
Shipping Weight	\$40

1 lb.

1 lb.

Model 550A Coax Switch \$34

Single Pole 5 position switch. Radial mounted connectors.


Model 594 Coax Switch \$36

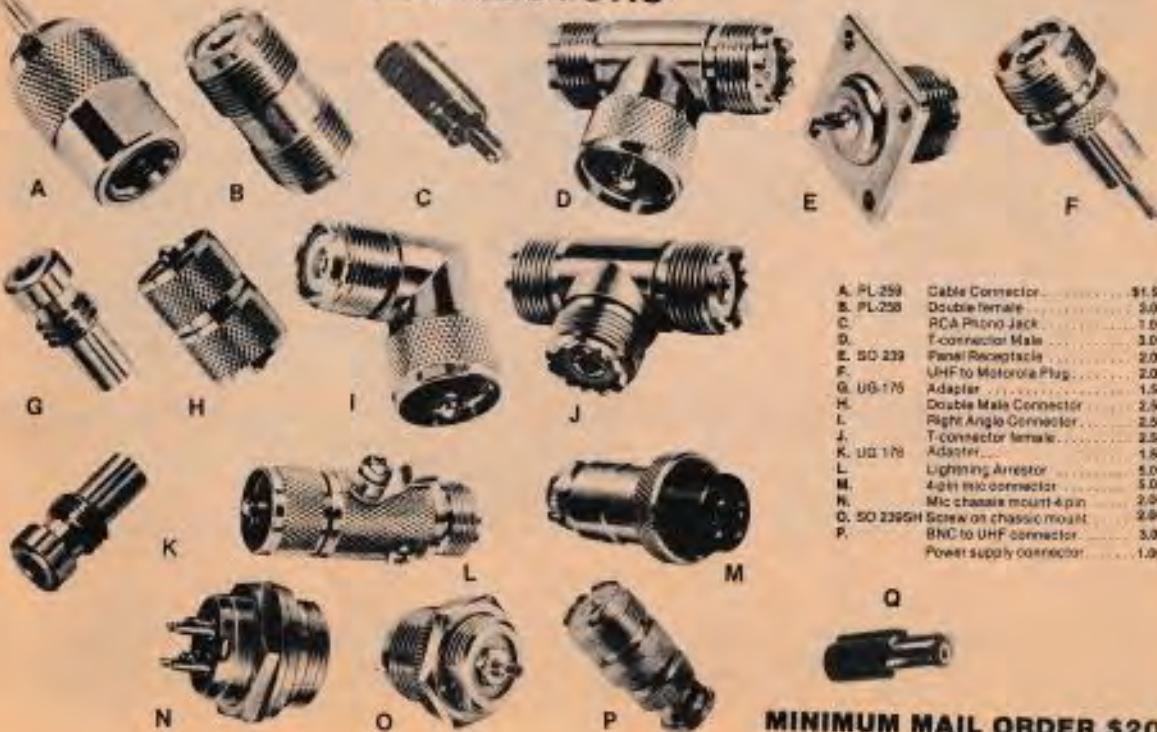
2 Pole 2 Position
Power 1 KW-2 KW PEP
Impedance 50-75 ohms
VSWR 1.2:1 up to 150 MHz
Crosstalk -40dB (measured at 30 MHz)
Dimensions 1-3/4" high, 5" wide, 3" deep
Weight 1 lb.
Mount Wall or desk


Model 595 Coax Switch \$39

Single Pole 6 Position with grounding of all unused positions.
Power 1 KW-2KW PEP
Impedance 50-75 ohms
VSWR 1.2:1 to 150 MHz



CONNECTORS



MINIMUM MAIL ORDER \$20

A. PL-259	Cable Connector	\$1.50
B. PL-250	Double female	3.00
C.	RCA Phono Jack	7.00
D.	T-Connector Male	3.00
E. SO-239	Panel Receptacle	2.00
F.	UHF to Motorola Plug	2.00
G. UG-175	adapter	1.50
H.	Double Male Connector	2.50
I.	Right Angle Connector	2.50
J.	T-Connector Female	2.50
K. UG-178	Adapter	1.50
L.	Lightning Arrestor	5.00
M.	4-pin mic connector	5.00
N.	Mic chassis mount 4-pin	2.00
O.	SO-239GH screw on chassis mount	2.00
P.	BNC-to-UHF connector	3.00
Q.	Power supply connector	1.00

BEAMS



\$509

TH6DXX

TH6DXX. This is the super Thunderbird; the undisputed 6-element King of the tri-banders. It utilizes separate Hy-Q traps with extra large coils and exceptional L/C ratios for each band. These superb Hy-Gain traps offer long term stability and exceptional band isolation. Hy-Gain traps come factory pre-tuned for peak performance and can be adjusted according to factory supplied charts for optimum results.

The TH6DXX has Hy-Gain's exclusive Beta Match for optimum matching and positive DC grounding to eliminate most precipitation static. Impedance is 50 ohms. Of the 6 elements, 3 are active on 20 and 15 meters and 4 are active on 10. VSWR is 1.5:1 at resonance at the TH6DXX is rated for maximum legal power.

All construction is of heavy gauge, taper swaged, slotted aircraft quality aluminum tubing for light weight and easy adjustment. Mechanically and electrically superior full circumference compression clamps are used throughout. The TH6DXX is supplied with a heavy duty, cast aluminum boom-to-mast bracket that accommodates masts from 1 1/4" to 2 1/2" and provides mast feed-through for antenna stacking. Order No. 389



203BA **S** **\$259**

■ 8.5db Forward Gain ■ 25db Front-to-Back Ratio

A full sized 20 meter mono-bander with 1 1/4" to 2 1/2" dia. elements full spaced on a 2" dia. 16' boom. Mechanically superior construction features taper swaged slotted tubing — allows easy adjustment and re-adjustment — stable boom-to-mast clamp. Longest element is 35'. Feeds with 52 ohm coax — factory pre-tuned with Hy-Gain's exclusive Beta Match. Wind load at 80 MPH. 78.3 lbs. Maximum power input, 1 kw. AM. Mast diameters from 1 1/4" to 2 1/2". Shpg. Wt. 30.0 lbs. Surface area — 3.06 sq. ft. Order No. 226

Electrical	TH6DXX	TH6DXS	TH2MK3	TH3JR	TH2MK3	TH6-11	204BA	203BA
Gain—Average	8.7dB	8.5 dB	8dB	8dB	5.5dB	8.4dB	10dB	8.5dB
Front-to-Back ratio	25dB	25 dB	25dB	25dB	15-20dB	15-25dB	28dB	25dB
SWR (at resonance)	Less than 1.5:1							
Impedance	50 ohms							
Power rating	Max legal	Max legal	Max legal	600 watt PEP	Max legal	Max legal	Max legal	Max legal
Mechanical								
Longest element	31'	31'	27'	24.2'	27.3'	23'	35.6"	30'
Boom length	24'	18'	14'	12'	6'	13'	26'	16'
Turning radius	20'	18'	15.7'	14.3'	14.3'	13.5'	22.5'	20' 1 1/2"
Wind load at 80 MPH	207 lbs.	164 lbs.	131 lbs.	87 lbs.	63 lbs.	108.8 lbs.	186 lbs.	138 lbs.
Maximum wind survival	100 MPH	100 MPH	100 MPH	80 MPH	80 MPH	100 MPH	100 MPH	100 MPH
Net weight	57 lbs.	50 lbs.	36 lbs.	21 lbs.	22 lbs.	32 lbs.	38 lbs.	32 lbs.
Mast diameter accepted	1 1/4" to 2 1/2"							
Surface Area	8.09 sq. ft.	6.4 Sq. ft.	5.10 sq. ft.	3.35 sq. ft.	3.25 sq. ft.	4.20 sq. ft.	7.27 Sq. ft.	5.38 Sq. ft.




TH6DXS **S** **\$469**

We are proud to introduce the newest member of our famous Thunderbird line of Tri-Band antennas. The TH6DXS offers outstanding performance on 20, 15 and 10 meters. It features 5 elements on an 18 foot boom, with 3 active elements on 15 and 20 meters and 4 active elements on 10 meters. The TH6DXS also features separate air-dielectric Hy-Q traps for each band. This allows the TH6DXS to be set for the maximum F/B ratio and the minimum beam width possible for a Tri-Band antenna of this size. Also standard on this antenna are Hy-Gain's unique Beta-match, rugged Boom-to-mast bracket, taper-swaged elements and improved element compression clamps.



204BA **S** **\$399**

A high performance DX beam for 20 meters that is light enough to mount on a lightweight tower ... rotate with a standard Ham rotator ... yet rugged enough to insure maximum mechanical and electrical reliability. Four full spaced elements on 26' boom ... feeds with 52 ohm coax ... Beta Matched for optimum gain. Mechanically and electrically superior construction features taper swaged slotted tubing. Allows easy adjustment and re-adjustment. Tiltable cast aluminum boom-to-mast clamp and heavy gauge machine formed element-to-boom brackets. 2" OD boom is 26' long; longest element, 36' 6". Wind load at 80 MPH, 99.8 lbs. Maximum power input, 1 kw. AM. Mast diameters from 1 1/4" to 2 1/2". Shpg. Wt. 51.2 lbs. Surface area — 3.9 sq. ft. Order No. 394



TH2MK3 **S** **\$425**

TH2MK3. The 3-element Thunderbird, offering outstanding performance on all three bands. Lighter and smaller than the TH6DXX, yet it has Beta Match, separate traps, DC grounding, taper swaged tubing and cast mast bracket. Takes maximum legal power. Order No. 388



TH2MK3 **S** **\$279**

TH2MK3. This is the popular, light-weight, and low cost 2-element Thunderbird. Again, an ideal choice for cramped locations, rooftop or light tower installation. Has separate traps, Beta Match, DC ground, taper swaged tubing and a high strength formed aluminum mast bracket. Maximum legal power rated. Order No. 390

S DENOTES STAINLESS STEEL HARDWARE

ALL THESE BEAMS ARE

SHIPPED FREIGHT COLLECT



TH3JR **S** **\$329**

TH3JR. The Thunderbird Junior, a compact, high performance, 3-element antenna for great tri-band action in a small space. Ideal for rooftop or lightweight tower mounting. Has Beta Match, DC ground, separate traps, taper swaged tubing and a high strength formed aluminum mast bracket. Rotates with heavy duty TV rotator. Order No. 221

TELEX hy-gain

TELEX COMMUNICATIONS, INC.

TH7DX



\$669

BROADBAND WITHOUT COMPROMISE

For years now, whenever hams got together and talked about the performance of any triband antenna, they would invariably compare it to the famous Hy-Gain TH6DX. Now, there's a new standard of comparison—the NEW Hy-Gain TH7DX. This antenna, like its predecessor, using a dual driven element system, maintains a VSWR of less than 2:1 on all bands, including ALL of ten meters. Hy-Gain didn't compromise on performance to achieve the efficiency either. The TH7DX utilizes a combination of stepped and monoband parasitic elements for more efficient broadband performance. This unique combination produces an average front-to-back ratio of 29dB on 20 and 15 meters, and 17dB on 10 meters. The TH7DX, with its great broadband characteristics, is the ideal choice for "all mode" operation.

HIGHEST TRIBAND PERFORMANCE, BUT MANAGEABLE SIZE.

The broadband TH7DX has high performance specifications that meet or exceed the monster antennas that seem to take up most of your real estate and part of your neighbor's. However, with its short 20 ft. (6.1 m) tuning radius and 31 ft. (9.4 m) longest element, it is no more imposing than a TH6DX. It's easy to assemble and weighs only 75 lbs. (34 kg). The wind loading is 240 lbs. (109 kg) at 80 mph (129 km/h) with only a 9.4 sq. ft. (0.9 sq. m) wind surface area, so the TH7DX is one of the safest and most manageable high performance tribanders you can buy. And, you don't have to spend a fortune on special towers and rotators either.

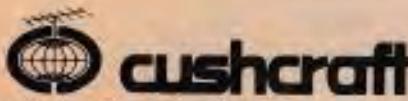
MECHANICALLY SUPERIOR

In a parabolic array such as the TH7DX, high efficiency has been used rather than parallel tubes. These Hi-Q tubes are capable of handling the maximum legal power with a 2:1 safety margin, and are superior to parallel tubing for ease of assembly and maintenance. Heavy, quality materials are used throughout this antenna. Includes 18 AWG stainless steel hardware for all electrical—and most mechanical—connections plus tapered angled 8083-T800 machined aluminum tubing. The antenna includes Hy-Gain's BN-20 boom and exclusive heavy, stamped aluminum, rugged boom-to-mast clamps, and hydroformed element-to-boom brackets.

CONVERT YOUR TH6DX

Hy-Gain hasn't forgotten about the thousands of proud TH6DX owners. A conversion kit is available which offers all of the broadband advantages of the TH7DX and includes a complete state-of-the-art hardware package. It's easy to assemble, and when completed, you have the finest triband antenna on the market, the TH7DX.

\$265



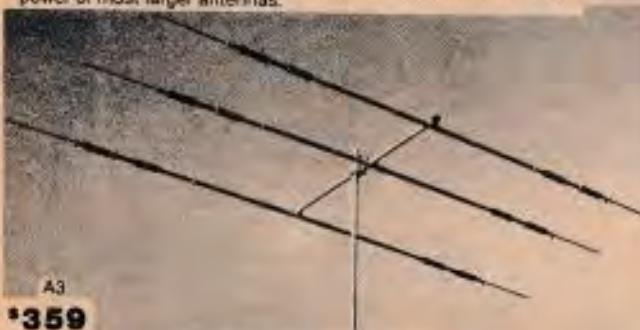
A4 4 ELEMENT 20 15 10 METERS

A true champion, our new A4 is based on the very successful ATB-34. It outperforms many larger beams because of our high Q traps and excellent spacing to element length ratios. A4 gives maximum performance with good dimensions and turn radius. Improve the number and quality of your contacts with a contest winning A4.

A4
\$439

A3 3 ELEMENT 20 15 10 METERS

Make friends of your neighbors with A3 compact dimensions low profile and small turn radius. Satisfy your budget with A3 economy pricing. You will also realize savings by using a lighter weight tower and rotator. This is one compact beam that has the strength and power of most large antennas.

A3
\$359

4 BAND ADAPTER KITS 30-40 METERS

Add more capability to your A3 or A4 beam with these easy to use add on kits. All components are included to give you 7 MHz or the new 10 MHz WARC band coverage. The adapters simply clamp to the existing element tubing to give four band performance.

A743 7 MHz/10 MHz Kit for A3

A744 7 MHz/10 MHz Kit for A4

	7 MHz Section (40m)	10 MHz Section (30m)
Driven Element (ft-ft)	33.25 min. 35.4 max.	27.11 min. 28.4 max.
With Adapter Kit (ft)	10.12 to 10.77	8.27 to 8.66
Wind Loading (lb)	.56	.27
(m)	.06	.03
Weight (lb)	3.44	2.29
(kg)	1.56	1.04
Bandwidth (KHz)	150	150
Side Rejection (dB)	40	40

A3 A4

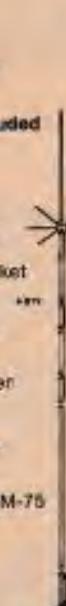
Forward Gain	8 dBi	8.3 dBi
Front to Back Ratio (Avail)	25dB	25 dB
VSWR	1.2 - 1 Typical	1.2 - 1 Typical
Bandwidth (Avg)	500 KHz	500 KHz
Power Rating	2000 W PEP	2000 W PEP
Feed Point Impedance	50 ohms	50 ohms
Connector	Twin terminal stainless steel takes all coax	Twin terminal stainless steel takes all coax
Boom (ft-in)	14' x 1.03' - 1.50'	16' x 2"
(cm)	428.7 x 4.13 - 3.81	488.5 x 5.1
Longest Element (ft-in)	27.75' x 1.03' - .50'	32' x 1.12' - .50'
(cm)	845.5 x 2.06 - 1.27	975.4 x 2.8 to 1.3
Wind Surface Area (ft)	4.36	5.5
(m)	.47	.051
Weight (lb)	27	37
(kg)	12.2	16.8
Tuning Radius (ft)	15.50	18.4
(m)	4.72	5.61
Max Diameter (in)	1.25 min. 2 max	1.25 to 2.13
(cm)	3.18 to 5.08	3.2 to 5.4

ALL THESE
ANTENNAS
SHIPPED FREIGHT
COLLECT



4-BTV

- Lowest SWR—PLUS!
- Bandwidth at its broadest! SWR 1.6 to 1 or better at band edges.
- Hustler exclusive trap covers "Spritz" extruded to otherwise unattainable close tolerances assuring accurate and permanent trap resonance.
- Solid one inch fiberglass trap forms for optimum electrical and mechanical stability.
- Extra heavy duty aluminum mounting bracket with low loss—high strength insulators.
- All sections 1½" heavy wall, high strength aluminum. Length 21'5".
- Stainless steel clamps permitting adjustment without damage to the aluminum tubing.
- Guaranteed to be easiest assembly of any multi-band vertical.
- Antenna has ¾"-24 stud at top to accept RM-75 or RM-75-S Hustler resonator for 75 meter operation when desired.
- Top loading on 75 meters for broader bandwidth and higher radiation efficiency!
- Feed with any length 50 ohm coax. + \$0 FREIGHT
- Power capability—full legal limit on SSB and CW.
- Ground mount with or without radials; roof mount with radials.

\$149⁰⁰

AV3	Excellent performance and low height for 20-15-10 meters, only 14 ft., 4.2 m high.	\$89
AV4	Covers the 40-20-15-10 meter amateur bands with low V.S.W.R. Overall height 19 ft., 5.9 meters.	\$169
AV5	Our most popular vertical covers 80-40-20-15-10 meters with excellent bandwidth. The antenna is only 25 ft., 7.4 meters high and it has our new capacitive "X" hat.	\$179

+ \$4 FREIGHT

+ \$4 FREIGHT

+ \$4 FREIGHT



18HT 6-80 meters.

The only vertical antenna on the market offering multi-band performance without traps. The Hy-Gain 18HT utilizes a unique stub decoupling system to maximize efficiency, frequency stability and band isolation. It also offers a 50 ohm input impedance for all bands.

The 18HT features automatic band switching, ⅛ wavelength performance on 40 and 80 meters, ¼ wavelength on 10 and 15 meters. Maximum legal power rating on all bands. It is entirely self-supporting and requires no guys. Heavy duty, slotted, taper swaged, aircraft quality aluminum with full circumference compression clamps used for radials. The 24" tower is all rugged, hot-dip galvanized steel and all hardware is plated for corrosion resistance. Special hinged base for easy raising and lowering. Order No. 182 \$699

18AVT/WB 10-80 meters.

The Hy-Gain 18AVT/WB gives you true wide-band performance in limited space. And now we've made it even better. The 18AVT/WB now has an improved 80 meter coil and an improved corona ball on the whip to eliminate wasteful and noisy corona discharge.

This antenna is rated in excess of maximum legal power 10-40 meters and up to 1 KW PEP on 80 meters. Entirely self-supporting, requires no guys. All tubing is slotted, taper swaged, aircraft quality aluminum with full circumference compression clamps.

The 18AVT/WB has automatic band switching and utilizes three air dielectric Hy-Q traps for exceedingly stable performance and true ⅛ wave resonance on all bands. May be roof mounted with Hy-Gain 14RMQ kit. Recessed SO-239 connector prevents moisture damage. 12" heavy duty mast support bracket.

Order No. 386 \$169

14AVQ/WB 10-40 meters.

The Hy-Gain 14AVQ/WB uses the same trap design as the famous Hy-Gain Thunderbird beams. 3 separate air dielectric Hy-Q traps with over-size coils for superb stability and ⅛ wave resonance on all bands. Automatic band switching.

An extremely low angle of radiation is utilized for superior DX performance. Taper swaged, slotted aircraft quality aluminum tubing. Entirely self-supporting, no guys required. Recessed SO-239 connector prevents moisture damage. 12" heavy duty mast support bracket. Roof mount with Hy-Gain 14RMQ kit.

Order No. 385 \$109

12AVQ 10, 15 and 20 meters.

The 12AVQ also uses Thunderbird design air dielectric traps for extremely Hy-Q performance. This is the way to go for inexpensive tri-band performance in limited space. Entirely self-supporting, requires no guys.

For superior DX transmission, the 12AVQ uses a very low radiation angle. Has automatic band switching. Aircraft quality, slotted taper swaged aluminum tubing. Recessed SO-239 connector prevents moisture damage. Heavy duty 12" mast bracket. Roof mount with Hy-Gain 12RMQ kit. Order No. 384 \$59

18V 10-80 meters.

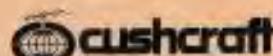
High efficiency, low cost vertical with quality construction for long life. Easily tuned to any 10-80 meter band by adjusting feed point at base inductor. An exceptional value.

18" radiator of heavy gauge aluminum tubing. Mounts on any 1-½" mast. Self-supporting, requires no guys. Easily erected, portable. 12" heavy duty mast bracket. Roof mounts with 14RMQ kit.

Order No. 193 \$45.00

ALL THESE ANTENNAS ARE SHIPPED FREIGHT COLLECT

VERTICALS



Cushcraft HF verticals are optimized for wide bandwidth and low angle of radiation necessary to long haul DX communications. They feature our new high Q stabilized trap design rated to 2000 watts PEP. The new larger diameter element tubing is 6063-T832 seamless aluminum. The base mount will take up to a 1½" (4.7 cm) O.D. mast with formed clamps for ground radials and/or guy wires. All models may be either roof or ground mounted. A good ground radial system is recommended for maximum performance.



AV3	Excellent performance and low height for 20-15-10 meters, only 14 ft., 4.2 m high.	\$89
AV4	Covers the 40-20-15-10 meter amateur bands with low V.S.W.R. Overall height 19 ft., 5.9 meters.	\$169
AV5	Our most popular vertical covers 80-40-20-15-10 meters with excellent bandwidth. The antenna is only 25 ft., 7.4 meters high and it has our new capacitive "X" hat.	\$179

+ \$4 FREIGHT

+ \$4 FREIGHT

+ \$4 FREIGHT



HF MOBILE ANTENNA 5 BAND HELICAL TYPE

KENWOOD

HF MOBILE ANTENNA MA-5

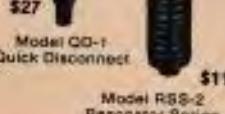
Band.....	3.5, 7, 14, 21, 28 MHz	Weight.....	1,115 kg (2,453 lbs)
Impedance.....	50 ohms	Base Element.....	190g
VSWR.....	3.5, 7, 14 MHz 1.5:1	3.5 MHz Element.....	600g
	21, 28 MHz 1.3:1	7 MHz Element.....	156g
Max. Power Input.....	200W pcp	14 MHz Element.....	95g
Length.....	Base Element 1245 (49.0) mm (inch) 3.5 MHz Element 185 (7-9/32) mm (inch) 7 MHz Element 1250 (49-7/32) mm (inch) 14 MHz Element 1150 (39-15/16) mm (inch) 21 MHz Element 495 (19-3/32) mm (inch) 28 MHz Element 165 (6-1/2) mm (inch)	21 MHz Element.....	40g
		28 MHz Element.....	35g

MA-5 10-80 METER HELICAL ANTENNA \$149 + \$5 FREIGHT
VP-1 BUMPER MOUNT FOR MA-5 \$60

Super Hustler Resonators—
Power Rating: Legal Limit SSB
Supers have widest band-width

Model	Band	\$
RM-10-S	10 meters	\$30
RM-11-S	Citizens Band	\$30
RM-15-S	15 meters	\$30
RM-20-S	20 meters	\$36
RM-40-S	40 meters	\$42
RM-75-S	75 meters	\$68
RM-80-S	80 meters	\$68

Super Resonators
RM(S) 2 KW PEP
Greatest Coverage



\$27

Model RSS-2 Resonator Spring

Model QD-1 Quick Disconnect

\$11



Model BM-1 Bumper Mount

\$28

Model MO-2
For Bumper
Mount
Location

\$39 + \$5 FREIGHT

\$30

Model BSM-2 Ball Mount

Model MO-1
For Deck or
Fender
Location

\$39 + \$5 FREIGHT

The original
hinge and
sleeve clutch
mechanismRotates 360° in
horizontal plane
for easy parking

THESE HY-GAIN MOUNTS AND ACCESSORIES ARE
COMPATIBLE WITH THE HUSTLER MASTS LISTED ABOVE.

415 Heavy duty bumper mount.....	\$20.00
499 Flush body mount for No. 270.....	\$21.00
511 Extra heavy duty mounting spring.....	\$21.00
573 Insulated gutter clip.....	\$4.00
531 Quick disconnect.....	\$12.00

MARINE AND LAND

Hy-Gain 270 Mobile Antenna for 2 meters

The Hy-Gain 270 is a 2-meter mobile antenna designed to eliminate hard tuning, high SWR, poor pattern due to irregular ground plane, and fade from whip flex. Constructed of all white fiberglass and chrome, the 270 develops 6 dB gain through the use of 2 stacked $\frac{1}{2}$ wave radiators with a self-contained $\frac{1}{4}$ wave decoupling system.

SWR bandpass, 144 to 150 MHz
Input impedance, 50 ohms
Height 8' nominal
Feedline - RG58/U coax
PL-259 connector
 $\frac{1}{2}$ "-24 x $\frac{1}{2}$ stud base fitting

\$75
Shipped Freight Collect

The 270 operates independently from the car body to reduce tune-up problems, minimize pattern distortion, and maximize range in all directions. Fiberglass sealed antenna and feedpoint insure top performance without loss to corrosion. The 270 is designed for use with Hy-Gain Bumper Mount 415, Flush Body Mount 499, or Universal Mount 271.

hy-gain
We keep people talking.

TWO METER ANTENNAS



AFM-4D AR-2 ARX-2
144-150 MHz FM - RINGO Ringo Ranger
135-175 MHz 137-160MHz
\$125 100W 100W
+\$4 Freight \$45 +\$4 Freight \$59 +\$4 Freight

ARX-2K RANGER KIT
Converts: AR-2 to ARX-2
\$35 +\$4 Freight

ARB-2K \$33 +\$4 FREIGHT
Converts: ARX-2 to ARX-2B

FOR YOU OSCAR OPERATORS
A-144-20T \$129 +\$4 Freight

OTHER CUSHCRAFT VHF - UHF DX - ARRAYS
6, 10, 15 & 20 METER BEAMS. AVAILABLE
WRITE GLENWOOD FOR DETAILS & PRICES

Ringo Ranger II

A-147-20T FM TWIST 145 & 147 MHz \$119

+\$4 Freight



A-147-4 4 ELEMENT YAGI 1000W 146-148 MHz



A 147-11
11 ELEMENT YAGI
(Not illustrated)
1000W 146-148 MHz
\$75

+\$4 Freight
A449-11
\$69

A-147-22 POWER PACK 1000 Watts 146-148 MHz



\$209
+\$4 Freight

ARX-2B \$75
5.5 dBi gain +\$4 Freight
ARX-220B \$75
ARX450B \$75

Two Meter Boomers They feature longer reflectors for additional front-to-back ratio and cleaner patterns. All stainless steel hardware and heavy gauge heat treated aluminum are used throughout. Whatever your choice of two meter amateur activity, the Boomer will fill your needs. For FM use the 228FB or 214FB.



V2 \$79



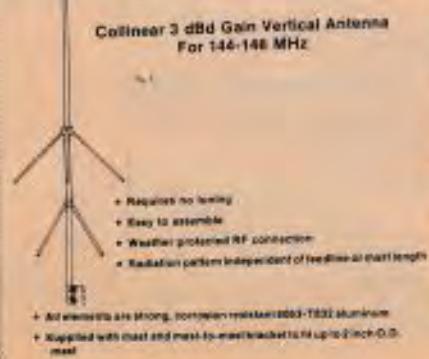
214FB \$129

228FB

\$399

THESE BEAMS ARE SHIPPED FREIGHT COLLECT

hy-gain

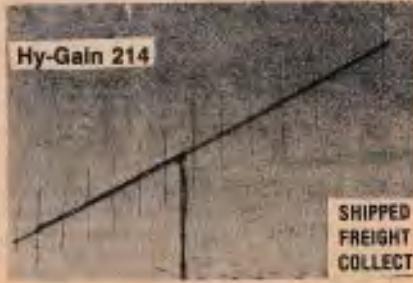


**Collinear 3 dBd Gain Vertical Antenna
For 146-148 MHz**

- + Requires no leveling
- + Easy to assemble
- + Weather protected RF connection
- + Radiation pattern independent of feedline air path length
- + All materials are strong, corrosion resistant 2024-T8500 aluminum
- + Supplied with mast and mast-to-mast bracket to fit up to 2 inch O.D. mast

SPECIFICATIONS	214	208
Mechanical		
Boom length	186"	431/2"
Longest element	391/2"	401/2"
Turning radius	95'	431/2"
Wind survival	80 mph	80 mph
Mast diameter	11/4"-11/2" O.D.	11/4"-11/2" O.D.
Boom diameter	11/4" O.D.	11/4" O.D.
Wind load area	1.65 ft ² max	4.96 ft ² max
Net weight	5.5 lbs	2.2 lbs
Electrical		
Forward gain	13.0 dBd*	6.1 dBd*
From-to-back ratio	20 dB	20 dB
Maximum SWR	2.1	2.1
Band width	2 MHz	4 MHz
Maximum power	250/500 PEP	250/500 PEP
Impedance w/ balun	52 ohms	52 ohms
1/2 power beam width	35° vertical	95° vertical
	35° horizontal	60° horizontal
Stacking distance	82" min	82" min

\$60 **\$29**



Hy-Gain 214

**SHIPPED
FREIGHT
COLLECT**

CHECK WITH YOUR LOCAL FREIGHT COMPANY FOR AN ESTIMATE AS THE HY-GAIN 214 PACKAGE IS 3 FEET LONG AND WEIGHS 3.1 KG

Larsen MOBILE ANTENNAS

5/8 BASE LOADED ANTENNA Handles full 200 watts of power.
 (WHIP AND COIL)

Deliver full 3 db GAIN
 over $\frac{1}{4}$ wave whip!

With Larsen Kölrod Antennas you get:

- Lowest silhouette and smallest dimensions for minimum wind drag.
- Very, very low V.S.W.R. . . less than 1.5 to 1.
- No high RF loss mounting springs to deteriorate effective radiation.
- Tough and reliable base structure guaranteed weather and water resistant.
- Just cut whip for required frequency following the supplied chart.

TMB-34 Bracket for $\frac{3}{4}$ " hole.
 TMB-38 Bracket for $\frac{3}{8}$ " hole.
 TMB-58 Bracket for $\frac{5}{8}$ " hole.

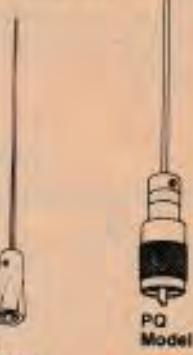


\$5

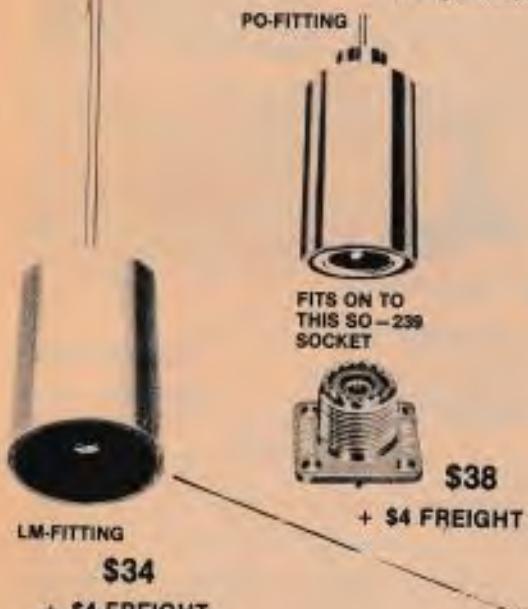
W-490 (49" WHIP ONLY)

\$11 + \$4 FREIGHT

**1/4 WAVE ANTENNA
 (COMPLETE)**



\$5 \$10



LM COIL ONLY \$23
 PO COIL ONLY \$27

OTHER LARSEN VHF & UHF
 ANTENNAS AND FITTINGS AVAILABLE
 WRITE GLENWOOD
 FOR DETAILS



All Temporary Mounts come complete with coax and plug. Coax is factory attached to mount.
 Permanent Mounts also include coax, plug & adapter.

	GUTTER CLAMP	TRUNK LID	PERM BODY MOUNT	TRUNK GUTTER	MAGNETIC MOUNT	COIL ONLY	1/4 WAVE WHIP	1/4 WAVE WHIP
LM FITTING	\$20	\$21	\$9	\$14	\$23	\$23	\$11	\$5
PO FITTING	\$21	\$22	-	-	\$24	\$27	\$11	\$10
NLA FITTING	\$22	\$21	\$10	\$15	\$24	\$27	\$11	\$11

SOME LOW-PRICED GIFT IDEAS

* KB-1 \$19
Deluxe VFO Knob
(Matches TS-530S, TS-B30S,
TS-820S, R-820, VFO-230,
VFO-440)



SP-40 Compact Mobile Speaker



Max. input:	3 W
Impedance:	4 Ω
Dimensions:	68(2.7)W x 64(2.6)H x 54(2.2)D mm (inch)
Weight:	250 g (0.6 lbs) approx.

COAX-SEAL.

Can be used on beams—dipoles—in the shack—has many uses. A must for satellite TV—microwave work—on wire antennas at solder joints, sealing holes on feed thru's, etc. Any application requiring a positive seal and weather protection. COAX-SEAL lasts for years. Great for waterproofing Marine Electronics.

OR PERHAPS A GLENWOOD GIFT CERTIFICATE

GLENWOOD TRADING COMPANY LTD.

ORDER DESK

EAST 1ST ST., NORTH VANCOUVER, B.C. V7L 1B3

The HC-10 is a highly advanced world clock with dual display which can memorize 10 major world cities and two the time of additional regions.

This clock incorporating a precise quartz and digital display system as well as a built-in microcomputer can also recall and display the starting time of QSO for logging purposes.

5179

MINIMUM ORDER

278 EAST 1st ST., NORTH VANCOUVER, B.C. V7L 1B3

ORDER DESK

\$20

BON DE COMMANDE – ORDER FORM

DEPOSIT: 50% DOWN PAYMENT REQUIRED WITH C.O.D. & COLLECT ORDERS. (See page 25 for details.)

ORDERS OVER \$300 CAN NOT BE SENT C.O.D. VIA THE POST OFFICE.

General Information

SHIPPING

Delivery is free on most items, with the exception of towers, antennas, rotators and cables, when the order is prepaid by cheque, money order, cash, telegraphic or bank transfer. (M.W.T. and some out-of-way points excluded.) We accept Visa and Mastercharge. For charge card orders, shipments on account, or where special delivery arrangements are required (such as Air Freight, Air Express, C.O.D.) you pay the full shipping cost and the shipment will either be sent freight collect, or you will be billed for the shipping. Lighter weight transceivers are shipped via 1st class air mail registered. Heavier equipment is sent via Parcel Post, Postpak or Rapidx. Normal delivery is two to three weeks which allows one week for processing and shipping and one week for delivery. We do our best to fill the orders in the chronological order that they are received. If we are out of stock or anticipate a delay, we will advise you by card.

You can place your order either by mail, or by phoning our order desk (604) 934-0405.

On orders over \$100 we will deduct the cost of your call (up to a maximum of \$5). Sorry, but we can not accept collect calls.

In the event of a mail strike, we hope that we can continue to serve you by receiving your order by phone, your payment by charge card or bank transfer. We will endeavour to maintain delivery using alternative carriers.

PRICING

Because of inflationary problems in our economy and those of the countries from which we import, together with currency exchange fluctuations, we are sometimes faced with price increases which we can no longer absorb if we are to remain in business. We therefore reserve the right to change the price of any item in this catalogue, confirmation of your order being subject to your acceptance of the price change. We hope that you will bear with us in understanding these problems. Nevertheless, we will endeavour to maintain our reputation for the finest quality at the lowest possible prices.

RETURNS AND EXCHANGES

A 15% restocking charge will be made on goods returned unopened within 10 days of an order cancelled after goods have been shipped. Proof of purchase must accompany returned items and freight or postage should be prepaid. Returned items should be insured to protect you against loss or damage (as we cannot accept responsibility for loss or damage to uninsured packages). Material cut to length or specific orders are not returnable or exchangeable.

C.O.D. AND COLLECT ORDERS

Because of customers refusing to accept delivery after ordering C.O.D., resulting in us having to absorb two-way freight charges plus shipping and handling costs, we reluctantly must insist on a 25% down payment on C.O.D. and Collect orders. For faster ordering, you can transfer funds by bank wire to: The Toronto-Dominion Bank, 15th and Lonsdale Branch, North Vancouver, for the account of Glenwood Trading Co. Ltd. On C.O.D. orders the customer pays the shipping, the Post Office only accepts C.O.D. orders for up to \$200 value. If the item you order costs more than this it will be shipped next best way collect, or in accordance with your instructions — but remember in these cases the shipping is on you, and a 25% down payment is required.

WARRANTY AND SERVICE

All the equipment we sell has been Glenwood tested. Specifications are correct to the best of our knowledge. We only advertise what we feel is good equipment. If your desired equipment is not advertised, we can usually sell it to you, but there is probably a reason why we don't advertise it. All our transceivers carry a ninety-day parts and labour and one-year parts guarantee providing they have not been misused, tampered with or otherwise mistreated. Our charge out rate for service technicians' labour for out-of-warranty work is \$20 an hour, minimum charge one hour. Please write to our service department regarding any malfunction for instructions for return and repair. Tubes and final (output) transistors are not covered by warranty.

MINIMUM MAIL ORDER \$20

MINIMUM \$3 SHIPPING AND HANDLING CHARGE ON ALL SPARE PARTS ORDERS.

Orders less than \$20.00 are subject to \$3.00 handling charge.

Renseignements Généraux

LIVRAISON

Nous expédition, sans frais pour le client, la plupart des nos articles, à l'exception des antennes, des pylônes, des rotatifs et des câbles, quand la commande est payée d'avance par chèque, mandat postal, en espèces, transfert télégraphique ou bancaire (excepté pour les Territoires du N.-B. et autres lieux très éloignés). Les amateurs-récepteurs de poids léger, sont acheminés en première classe recommandée, par avion. Les articles plus lourds sont envoyés su tarif des colis, postpak ou rapides. Vous pouvez compter un délai normal de 2 ou 3 semaines entre la mise à la poste de votre commande et la réception des articles; c'est le temps nécessaire pour recevoir votre commande, la remplir et pour vous expédier les pièces. Nous servons nos clients en donnant la priorité aux premiers arrivants. Nous répondons dès que possible à toutes les demandes. Quant nous prévoyons un retard dans la livraison, nous prenons soin d'en avertir nos clients.

Vous pouvez passer vos commandes en téléphonant au bureau des commandes (604) 934-0405. Pour des commandes de plus de \$100 nous déduisons le prix de votre appel (jusqu'à un maximum de \$5). Nous regrisons de ne pouvoir accepter des appels à huis clos. Pour accélérer le paiement, nous acceptons les cartes de crédit Visa et Mastercharge. Pour les arrangements de livraison rapide (c'est à dire livraison autre que par la poste), ou pour paiement à la livraison, par carte de crédit, ou envoi à crédit, les marchandises seront soit envoyées en port dit, ou bien vous serez facturés pour l'expédition. En cas de grève des postes, nous espérons pouvoir continuer à vous servir en téléphonant votre commande par téléphone, notre paiement par carte de crédit ou mandat bancaire. Nous nous efforçons de maintenir la livraison en utilisant d'autres transporteurs.

PRIX

L'inflation qui touche notre économie et celle des pays dont nous importons, les variations des cours du change nous obligent parfois à hausser les prix de certains articles, nous y sommes contraints pour assurer la rentabilité de notre entreprise. Nous nous réservons donc le droit de modifier le prix de n'importe quel article de ce catalogue. Dans les cas où il y a modification dans les prix, la commande devient sujette à l'appréciation du client. Nous souhaitons que vous acceptiez ces contraintes; nous nous excusons des inconvenients qui en résultent. Soyez assurés que nous nous efforçons de garder cette inflation qui est forte, d'offrir la meilleure marchandise au plus bas prix.

RETOURS ET ÉCHANGES

Une retenue de 15% est faite sur le prix de toute marchandise retournée intacte en moins de 10 jours. La même politique s'applique pour les commandes envoiées après livraison de la marchandise. Dans le cas d'un retour de marchandise, le prélevé d'achat doit toujours accompagner les articles; le coût de transport incombe alors au client. On nous conseille d'assurer ces articles contre la perte ou le bris; nous ne pouvons pas assumer la responsabilité des pertes ou des dommages encourus durant le transport.

On ne peut retourner ou échanger les matériels coupés sur mesure et les articles faisant l'objet d'une commande spéciale.

LIVRAISON CONTRE REMBOURSEMENT (C.R.)

Un versement initial de 25% doit accompagner toute commande à être livrée contre remboursement (C.R.). Nous sommes forcés de prendre cette mesure parce que des gens refusent parfois d'accepter la livraison des articles. En l'occurrence, l'expéditeur est forcé d'assumer la totalité des frais encourus pour l'emballage et le transport aller et retour de la marchandise.

Pour accélérer la rapidité des transactions, vous pouvez céder votre paiement à la Banque Toronto-Dominion, 15th & Lonsdale Branch, North Vancouver, pour dépôt au compte de Glenwood Trading Co. Ltd.

Le client paie le transport des commandes livrées contre remboursement (C.R.). Le poste n'accorde pas les commandes C.R. supérieures à \$200.00. Si l'article commandé coûte plus de \$200.00, il vous sera expédié sur la base "Collect", c'est-à-dire d'un montant à percevoir au destinataire, ou suivant tout autre plan, à votre convenance. Dans ces dernières cas, cependant, le transport est à vos frais et un versement initial de 25% est exigé.

GARANTIE ET SERVICE

Nous vérifions l'assortiment que nous vendons. Au meilleur de notre connaissance, il rencontre les spécifications fournies. Nous n'annonçons que de bons produits. Si vous désirez d'autres articles, nous pourrons vous les fourrir, avec le réserve qu'il y a peut-être une raison pour laquelle nous ne les avons pas.

Nos détenteurs-récepteurs sont couverts par une garantie de 90 jours, pièces et réparation. Les pièces qui n'ont pas été l'objet d'abus ou de mauvaise utilisation ont une garantie d'un an. Le taux horaire de nos techniciens du service de réparation travaillant sur des articles non couverts par la garantie de \$30, minimum tarif d'une heure. En cas de panne ou de difficulté, consultez notre service de réparation: celui-ci vous renseignera sur le fonctionnement de l'appareil et, si nécessaire, vous donnera des instructions pour le rétour de l'appareil défectueux.

Les lampes et les transistors de sortie ne sont pas couverts par la garantie.

COMMANDE MINIMUM \$20

\$3 MINIMUM D'EXPÉDITION ET DE MANUTENTION POUR DES PIÈCES DE RECHANGE.

BOOKS, TECHNICAL PUBLICATIONS AND SUPPLIES

CANADIAN PUBLICATIONS

MINIMUM MAIL ORDER \$20

ELECTRONIQUE D'AMATEUR

PAR RADIO AMATEUR DU QUÉBEC INC.
TEXTE EN FRANÇAIS POUR LES ÉTUDIANTS DE LA RADIO-AMATEUR QUI
SE PRÉPARENT POUR LES EXAMENS DU MINISTÈRE DES COMMUNI-
CATION. \$5.95

HAM HANDBOOK FOR THE ADVANCED

— MORTON BIBECK —
STUDYING FOR THE ADVANCED?
THIS IS THE BOOK FOR YOU. \$9.50

FROM THE CANADIAN AMATEUR RADIO FEDERATION

Canadian Amateur Certificate Study Guide	\$8.00	Advanced Amateur Certificate Study Guide	\$8.00
Canadian Amateur Radio Regulations Handbook	\$8.00		

1982 U.S. CALL BOOK

CONTAINS ALL W&K LISTINGS WITH LICENCE
CLASSES, NAMES AND ADDRESSES, PLUS
MANY CHARTS AND REFERENCES.

CALL BOOKS

\$21

1982 FOREIGN CALL BOOK

FOR ALL DX'ERS. CONTAINS OVER 235,000
CALLS, NAMES AND ADDRESSES.

\$20

"HAM" RADIO CODE COURSE - 6 PRE-RECORDED CASSETTES '29"

This cassette code course is designed to get the beginner in Amateur Radio on his or her way towards achieving that goal which will lead to the successful completion of the Canadian Amateur Radio Examination as set by the Department of Communications for the Morse code requirement.

The Morse code on these tapes has been computer generated. All characters in this series are sent at 14 words per minute but have much larger spacing between them to give the effect on slower speeds. (With the exception of Tape six side A which is sent at 10 w.p.m. for both.)

Tapes one to four gently introduce the Morse letters, numbers, and the punctuation sounds. Practice sessions are provided every second character learned. They last approximately five minutes long and are progressively more difficult. (The more letters you learn, the larger the alphabet in each practice session.) Major practice sessions are provided every 6th character learned. These are about fifteen minutes long and contain all the letters, numbers, and punctuations that you have learned in the previous set of six characters. These too get more difficult as you learn more and more of the Morse code.

By the time you complete these tapes you will be ready for the last two sessions. Tape five and six are all practice in either plain English and/or Cipher groups. By the end of these tapes you should be ready and able to copy ten words per minute with very good accuracy. You'll need more practice . . . but you are already well on your way to that goal.

OPERATING SUPPLIES

ARRL LOG BOOK \$3.00

8½ x 11 Spiral

MINILOG \$2.00

POCKET SIZED LOG BOOK

RADIO-GRAM FORM \$1.50

GIVE YOUR ADDRESSEE A NEAT LOOKING MESSAGE

ARRL PUBLICATIONS

- | | |
|--|--|
| <input type="checkbox"/> THE RADIO AMATEUR'S HANDBOOK The standard manual of Amateur Radio Communications. \$12.00 | <input type="checkbox"/> A COURSE IN RADIO FUNDAMENTALS Classroom text and home study guide. \$5.95 |
| <input type="checkbox"/> TUNE IN THE WORLD WITH HAM RADIO All the beginner needs to know to obtain the Novice license. Package includes text, code practice cassette, and workbook. \$10.00 | <input type="checkbox"/> ARRL ELECTRONICS DATA BOOK Reference guide of charts, tables, & circuits. \$6.00 |
| <input type="checkbox"/> ARRL ANTENNA ANTHOLOGY The best from QST. \$1.50 | <input type="checkbox"/> FM AND REPEATERS FOR THE RADIO AMATEUR Complete manual of fm and repeater operation and equipment design. \$7.50 |
| <input type="checkbox"/> ARRL ANTENNA BOOK Contains theory and construction of all types of antennas. \$7.50 | <input type="checkbox"/> HINTS AND KINKS Contains over three hundred practical ideas for your ham-shack. \$5.95 |
| <input type="checkbox"/> LICENSE MANUAL Complete text of amateur regulations, FCC exam syllabus, radio theory for Technician through Extra. \$5.50 | <input type="checkbox"/> SOLID STATE DESIGN FOR THE RADIO AMATEUR Practical circuits and theory. \$5.00 |
| <input type="checkbox"/> ARRL OPERATING MANUAL Definitive source of good operating practices applied to over a dozen most popular Amateur Radio activities. \$7.50 | <input type="checkbox"/> UNDERSTANDING AMATEUR RADIO Written for the beginner. Contains theory and how-to-build-it info. \$7.00 |
| <input type="checkbox"/> LEARNING TO WORK WITH I.C.'S Discover the basics of I.C.'s while building simple electronic projects. \$3.50 | <input type="checkbox"/> THE RADIO AMATEUR'S VHF MANUAL A thorough treatment of VHF. Covers receiving and transmitting principles, techniques and construction; antenna and feed system design; UHF and microwaves; test equipment; interference charts and cases. 3rd Ed. \$6.50 |
| <input type="checkbox"/> RADIO FREQUENCY INTERFERENCE Solutions to a real problem that faces every radio amateur. \$5.00 | |
| <input type="checkbox"/> REPEATER DIRECTORY listing of U.S. and Canadian repeaters. \$2.00 | |
| <input type="checkbox"/> SINGLE SIDEBAND FOR THE RADIO AMATEUR A compilation of the best s.s.b. articles from QST. \$5.00 | |
| <input type="checkbox"/> SOLID STATE BASICS Designed to clear away all the mystery that surrounds semiconductor devices. \$7.50 | |
| <input type="checkbox"/> World Map, 1980 edition Great Circle map with country prefix list, ITU region boundaries, time zones and much more. \$5 | |
| <input type="checkbox"/> WEEKEND PROJECTS FOR THE RADIO AMATEUR Easy to build projects from QST. Vol. 1 \$5 | |

THE CLEARANCE PAGE

A selection of obsolescent stock, samples and hard to find items, all of which are new, unless otherwise noted, and carry a full GLENWOOD warranty. Quantities are limited. Many items are ONE OF A KIND.

MAKE	MODEL NO.	DESCRIPTION	PRICE
Kenwood	TR-7625	25W-2MTR Mobile Transceiver with 800 channels & Memory	\$399
	RM-76	Remote Controller with 6 Memories & Scanning for TR-7600/7625	\$129
	ST-1	Base Stand and Quick Charger for TR-2400 handheld	\$ 99
	SC-3	Soft Vinyl Case plus Belt Clip for TR-2400	\$ 25
	LH-1	Deluxe Leather Case for TR-2400	\$ 49
	BC-5	DC-Pulse charger for TR-2400	\$ 40
	RA-24	Rubber Ducky antenna for TR-2400, BNC connector	\$ 18
	RA-1	Rubber Ducky antenna for TR-2200A	\$ 15
	PB-12	Battery pack for TR-2200A, TR-3200	\$ 25
	VFO-700S	Outboard VFO for TS-700	\$179
	SP-70	Matching outboard speaker for TS-700, TS-600	\$ 35
	VOX-3	Outboard VOX control for TS-700A, TS-600 etc.	\$ 35
	TS-520SE	160-10M transceiver, S-2100A finals complete with CW filter and matching SP-520	\$899
	VFO-520	Outboard VFO for TS-520 series transceivers	\$229
	YG-3395C	500 Hz CW filter for TS-520 series	\$ 83
	DG-1	Digital readout for TS-820	\$269
	TS-120V	QRP (10W) version of the popular TS-120S solid state 10-80M mobile transceiver	\$699
	VFO-180	Outboard VFO for the TS-180S transceiver	\$229
	YK-88S	SSB filter for TS-180S	\$ 83
Hy-Gain	281	15 mtr mobile coil & whip (fits on hustler mast)	\$ 25
	282	20 mtr mobile coil & whip (fits on hustler mast)	\$ 28
Swan	100MX	Solid state U.S. made 10-80m transceiver noise blanker, R.I.T., Vox	\$799
	40-10V	10 thru 40 m trapped vertical antenna	\$ 89
	10-40V	Rugged 10-40 M trapped vertical antenna	\$ 99
Wilson	1405SM	5W-6 ch.portable complete with 52/52 and touchtone pad	\$399
	350 PS	Matching AC power supply for Wilson 350 transceiver	\$289
Ten-Tec	670	Single paddle keyer	\$ 39
Denton	160-10L	160 thru 10 mtr 2 kw linear. 4 x 572 B tubes. Demo.	\$669
KLM	144-148-12C	12 element circularly polarized 2 mtr beam	\$ 89
FDK	Multi-750	2 mtr-25w all mode synthesized transceiver. 800 ch.	\$499
Blazetone	400	2 mtr-400 channel mobile transceiver	\$299

\$5 MINIMUM ORDER

EXPERIMENTERS — HOME BREWERS

MINIMUM ORDER \$5

PRICES SLASHED TO CLEAR — LOOK HERE FOR BARGAINS

R. F. POWER TRANSISTORS 2N3375 Finals — Only \$2 each

RESISTORS — A mixed bag of 0.25W to 3W and 1 ohm to 1 meg ohm. Approx. 100 bag \$1.

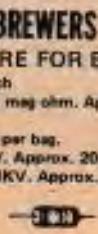
RESISTORS — 4.7K ohm 2W Resistors. Bags of 50. Only \$1 per bag.

ELECTROLYTIC CAPACITORS. 16mF — 500mF: 5V—15V. Approx. 20 per bag. Only \$2.

CERAMIC DISC CAPACITORS. 0.001mF to 4700 pf. 1V—3KV. Approx. 125 per bag. Only \$2.



ALL ITEMS
NEW AND
UNUSED



FABRIQUE AU CANADA

MADE IN CANADA

DTU-2M DEMODULATOR

A complete self-contained Modulator/
Demodulator for RTTY and other date
Transmission

***139**

The demodulator is a phase locked loop AFSK decoder for 170 Hz shift. Automatic automatically turns on the RTTY unit on reception of valid frequency shift tone. Anti-space prevents the printer from running open if someone sends a continuous space tone. The printer control disables the keying transistors if the incoming tones get distorted or interfered with. This prevents the printing of garbage.

Visual indicators are provided for a mark and space indication, also indication for valid tone frequency and push to talk operation are provided. The valid tone indicator makes tuning the demodulator very easy. In addition to this there is a scope output for precise tuning of the phase locked loop. Power requirements: 150 volts at 60mA. for the printer, 12 volts at 400mA. for the unit itself. (Connecting wires and 4-Led diodes are included).

The unit does not include power supply, 3 or 2 12V relays, and up to six switches, depending on the controls wanted.

TOUCH TONE® PAD
Automatic Electric**\$47**

Complete Pad and Tones
Mechanical Type
Less Mounting Box.

TOUCH TONE COUPLER

Audio interface
between TT pad and
any 2 meter rig.
Size: 2.5 cm. x 2.5 cm.

***11**

To encourage the Canadian manufacture of products of interest to hams, we will assist you in marketing items we consider worthwhile. Drop us a line with your product information.

\$5 MINIMUM ORDER

EXPERIMENTERS — HOME BREWERS

MINIMUM ORDER \$5

PRICES SLASHED TO CLEAR — LOOK HERE FOR BARGAINS

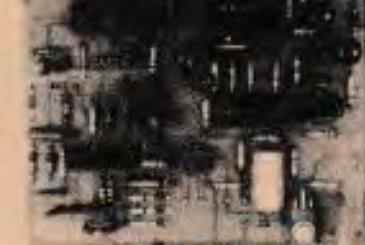
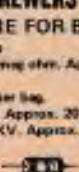
R. F. POWER TRANSISTORS 2N3376 Fets — Only \$2 each

RESISTORS — A mixed bag of 0.25W to 3W and 1 ohm to 1 meg ohm. Approx. 100 bag \$1.

RESISTORS — 4.7K ohm 2W Resistors. Bag of 50. Only \$1 per bag.

ELECTROLYTIC CAPACITORS. 16mF — 500mF; 5V—15V. Approx. 20 per bag. Only \$2.

CERAMIC DISC CAPACITORS. 0.001mF to 4700 pF, 1V—3KV. Approx. 125 per bag. Only \$2.

ALL ITEMS
NEW AND
UNUSED**AFSK GENERATOR**

12 Volt operation. Phase Cont. Freq. Shift
Provision for both 850 Hz and 170 Hz Shift
(Card connector not included)



Size
6.8 cm x 5.2 cm

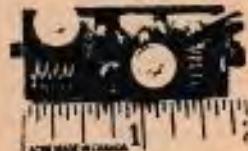
45*TOUCH TONE® DECODER**
FOR SELECTIVE CALLING

3.5" x 5" and with 16 pin connector
Power requirements: 12-18 volts
at 30 ma (excluding load).

SC-1
***137**



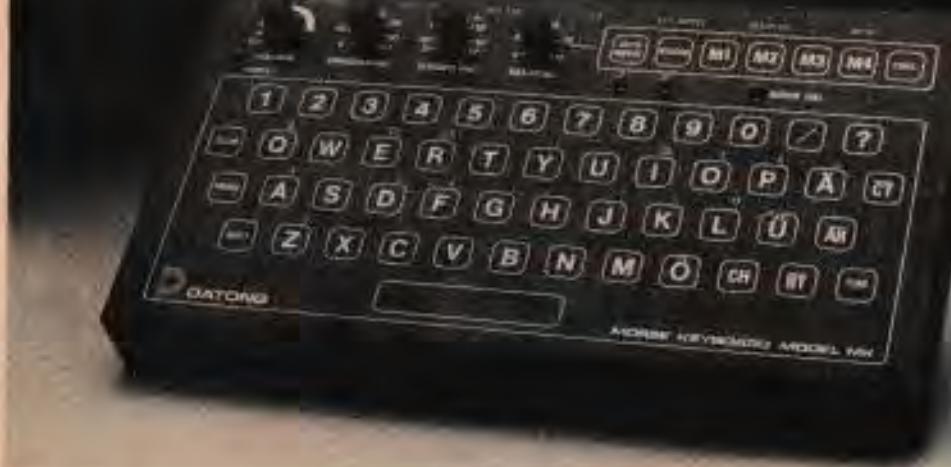
May be field programmed for
any 3 or 4 digit combination
of the 16 touch tone digits.
Two saturating transistor outputs:
— One latched (continuous)
with self reset
— one timed (temporary) with
self reset after 8 seconds.
Standard: 2 out of 8 DTMF
signalling.

SUPER TWO***21**

The most popular 2-MTR Preamp
in Canada. Fits any 2 MTR rig. Size
2 cm x 2 cm x 5.5 cm. Takes any
12 V DC source, 18-20 dB gain.

MORSE KEYBOARD

MODEL MK



*379

Model MK brings a new level of compactness and convenience to keyboard operated morse code senders. It measures only 10½ x 6 x 1½ inches and is independent of external power supplies: four internal pen cells last for typically 300 hours, representing a year of normal use.

The Keyboard itself features positive action microswitches beneath a plastic membrane. This means the unit is immune to spill coffee, cigarette ash, and other likely hazards, yet good tactile feedback is retained.

A very comprehensive character set is programmed in. As well as the normal "QWERTY" alphanumeric characters, many accented letters and procedure signals are available as single key presses. Yet more are available via the "SHIFT" key. In addition any character of any length can be constructed using the "MERGE" key to combine standard characters.

You don't have to be a typing expert either. The morse code output is actually read out from a buffer memory at a precisely constant speed (as set by the "SPEED" control). All you have to do to ensure perfect sending is to keep the buffer topped up: "hunt and peck" is quite OK. Audible and visual warning is given when the buffer is full, and a "CLEAR" key allows you to erase the complete buffer if required.

IMPROVES SENSITIVITY AND SIGNAL-TO-NOISE RATIO OF RECEIVERS AND TRANSCEIVERS IN THE RANGE 5 TO 200 MHz CONNECTS IN SERIES WITH THE ANTENNA — R.F. SWITCHED. 9 dB GAIN TYPICAL



RFA

\$89

FEATURES

- Extra wide bandwidth saves separate preamplifiers for each band.
- Handles strong signals without overload (intercept point + dbm).
- Low noise figure.
- Carefully chosen gain level minimises receiver overload and cross modulation.
- R.F. activated bypass relay allows easy use with transceivers.
- Rugged diecast aluminium case with SO 239 connectors and PTH printed circuit board.

Four independent message memories are provided, each with 64 character capability and editing facilities. You can also programme as many pauses as you like into a message. On playback, when the memory pauses, you then have the option of continuing from memory (by pressing "CONT.") or of first inserting copy from the keyboard. This is ideal for contests where call sign and report can be typed into a prerecorded reply. Memory readout is also halted whenever any keyboard character is pressed.

Using the "AUTO REPEAT" function you can automatically repeat the same message with up to a 15 second delay between repetitions. This is ideal for CQ calls or especially at high sending speeds, for meteor scatter work.

All memory contents are retained when the unit is switched off (and even while you change the batteries).

Other features include: solid state keying with separate positive and negative outputs; two speed ranges (5 to 33 and 20 to 132 words per minute); built-in side-tone; built-in beep tone to indicate "key pressed" and/or "buffer full"; delay control to increase the inter character delay (for easier message editing); weight control; high quality construction using P.T.H. board and reverse printed panels.

A NEW SELECTIVE CALL SYSTEM FOR USE WITH ANY UNMODIFIED RADIO TRANSCEIVER. OVER 4000 SEPARATE CHANNELS BUILT IN. TAKES THE FATIGUE OUT OF LONG TERM MONITORING.

FEATURES

- Each "Codecall" unit acts as a call generator and a call receiver.
- No electrical connection is needed at the transmitter, simply hold "Codecall" next to the microphone.
- At the receiver simply plug "Codecall" into the external speaker jack.
- Over four thousand different codes virtually eliminate the chance of false alarms.
- Internal 9 volt battery has long life since no current is used while monitoring a squelched channel.
- Works over any voice link, whether FM, AM, or SSB.
- Codes selected by either three 16-way switches

CODECALL



\$89

COMAX TELEREADER

CWR-685E Teletreader Terminal

A versatile, portable radioteletype terminal, the CWR-685E is designed for convenient use in any location. With built-in modems and display screen and an external sending keyboard, the CWR-685E can transmit, receive and display messages in either Morse (CW), Baudot or the computer-standard ASCII code. Among the many special features are high and low RTTY tones, selectable baud rates and frequency shifts, a 15-line transmitting buffer memory, six memory channels, and automatic transmit/receive control. All functions are controlled by front panel push-buttons, for simple and accurate operation. Its compact size and DC power operation make the CWR-685E ideal for use in vehicles, boats and other portable installations. Add nothing more than a power supply and transceiver to create a complete CW/RTTY station.



\$1319 COMPLETE WITH KEYBOARD

Main Features

- CW, Baudot and ASCII transmission and reception
- Built-in 5" green phosphor CRT display
- 4-page display, 32 characters x 20 lines per page
- Built-in RTTY and CW modems
- External detachable keyboard (similar to standard typewriter keyboard) with 3-foot cord
- 6 memory channels (63-character capacity each)
- Transmitting buffer memory (480 characters)
- High and low RTTY tones
- Storage and loading capability using external cassettes
- 13.8V DC power source
- Compact size: 12 3/4" W x 5" H x 11 1/4" D (323mmW x 127 mmH x 286mmD)

Code/Speed Flexibility

- Variable transmission/reception speeds
- CW - 3-40 wpm
- RTTY (Baudot/ASCII): 45,45 - 300 bauds (six speeds)
(300 bauds possible with external modem)
- Variable CW weight
- ASCII transmission/reception of both upper and lower case letters
- CW practice function
- Automatic CW speed tracking during reception
- CW ID function
- Automatic change for using memory channels
- Control of transmission buffer change
- Direct change

Special Features

- Automatic and manual transmission/reception switching
- AFSK modulator
- Echo function for automatic readout or sending of received data
- Normal and reverse sense
- Unshift-on-space function
- CW PLL filter
- Status display indicates:
 - Memory channel in use for transmission
 - Working condition of all circuits
 - Screen picture number
- Built-in monitor circuit with two speakers:
 - Output/signal monitor
 - CW sidetone/AFSK output monitor
- Rub-Out function erases one line or 15 lines for transmission correction
- Automatic carriage return, line feed and letter/figure code insertion for RTTY printout
- Cross pattern checking output terminal
- Scroll function

Interfacing

- Printer output: Centronics-compatible parallel interface
- External monitor output
- Cassette tape recorder input and output

CWR-670 Telereader Receive Only \$563

- Automatic CW speed tracking
 - Display output: 512 characters x 2 pages
 - Normal and reverse sense
 - Printer output: Centronics-compatible parallel interface
 - RF/VHF/video display output
 - Oscilloscope output
 - 13.8V DC power source

- CW, Baudot and ASCII reception
 - Variable reception speeds
 - CW: 3-50 wpm
 - Baudot/ASCII: 45.45 - 300 bauds
(six speeds! (300 bauds possible with external modem))
 - Switchable 36 or 72 characters per line
 - High/low tape switch

KG-12N Display Monitor

Designed to fit Telereader equipment and computers with composite video output, the 12" (31cm) CRT displays up to 2000 characters, using an implosion-proof green phosphor. Dependable 14-transistor circuitry with DC restoration for raster prevention.

S249

- AC 120V/220V power source
 - 12 1/4" W x 11 1/4" H x 12 5/8" D (310mmWx285mmHx321mmD)
 - Weight only 7 kg (15.4 lbs.)



- Compact size: 7 7/8" W x 12 5/8" D x 2 3/4" H (200mmW x 320mmD x 70mmH)
 - Weight only 2.3 kg (5.1 lb.)

5999

Centranix-compatible parallel interface for compatibility with Telereader equipment.

- Power source: AC 100/115/220/240V
 - Dimensions: 15 5/8" W x 11 1/4" D x 4 3/4" H (398mmW x 285mmD x 121mmH)
 - Weight: 8.5 kg (18.7 lb.)



CONNECTING CABLE BETWEEN TELEREADER AND PRINTER. \$49

GLENWOOD TRADING COMPANY LTD.

MINIMUM ORDER

278 EAST 1st ST., NORTH VANCOUVER, B.C. V7L 1B2

ORDER DESK

(604) 984-0405

I HEREBY AUTHORIZE GLENWOOD TRADING COMPANY LTD. TO CHARGE THE AMOUNT OF THIS ORDER PLUS FREIGHT TO MY VISA OR MASTERCHARGE CARD.

NO. _____ BANK _____

Digitized by srujanika@gmail.com

EXPIRATION **SIGNED**

ADD 8% SALES TAX FOR B.C. RESIDENTS ****Applies only to Antennas, Rotor, Towers, Cable and C.D.R. collect and charge card orders.**

- ADD 5% SALES TAX FOR B.C. RESIDENTS

**Applies only to Antennas, Rotors, Towers, Cables
and C.O.D., collect and charge card orders.**

*****MINIMUM 25% DOWN PAYMENT REQUIRED WITH C.O.D. & COLLECT ORDERS. (See page 25 for details.)
ORDERS OVER \$200 CAN NOT BE SENT C.O.D. VIA THE POST OFFICE.**

\$5 EACH

CRYSTALS

\$10 PER CHANNEL

Transmit	Receive	Transmit	Receive	Transmit	Receive
146.01	146.61	146.37	146.97	147.83	147.03
146.04	146.64	146.40	147.00	147.72	147.12
146.07	146.67	146.46	147.06	147.78	147.18
146.13	146.73			147.81 *	147.21 *
146.16 *	146.76 *	146.52	146.52	147.84	147.24
146.19	146.79	146.58	146.58		
146.22 *	146.82 *	146.70	146.70	147.33	147.33
146.25	146.85	146.76	146.76	147.60	147.60
146.28	146.88	146.94	146.94	CRYSTAL CLEARANCE	
146.31 *	146.91 *			We have the following simplex channels on sale at \$2 per channel.	
146.34	146.94			TR-2200: 144.48, 144.72, TR-7200: 144.48, 144.60, 145.32	

**OFFER GOOD
WHILE STOCKS LAST**

SPECIAL CLEARANCE* BECAUSE WE HAVE A LARGE STOCK OF THOSE FREQUENCIES MARKED WITH A * WE ARE OFFERING THESE CRYSTALS ONLY FOR LIMITED TIME AT \$2.50 EACH. MINIMUM ORDER — \$14. THIS APPLIES ONLY TO XTALS FOR THE MULTI-7, MULTI-11, TR 2200, TR 7200.

**MINIMUM
ORDER
\$14**

NYE 'VIKING' PHONE PATCH

Used to connect a telephone circuit into any communication installation the NYE VIKING Phone Patch is a compact, automatic, hybrid-transformer type unit which provides push-to-talk, or voice (VOX) control operation. Has adjustable line "null" control, and separate gain controls for transmitter and receiver inputs.

In "PATCH" position, the speaker is de-energized and audio is switched to the telephone handset for undistorted, hum-free audio response. It is effectively shielded — RF filtering and bypassing prevents RF feedback from telephone line. The Phone Patch is easy to install and operate. It comes wired and tested.

Model 250-46-1, recommended when your receiver speaker is separate from the receiver or transceiver, utilizes your existing speaker.



\$85

**KENWOOD'S****PC-1**

COMPACT PHONE PATCH CONTROLLER PERMITS EASY INTERCONNECTION BETWEEN YOUR TRANSCEIVER AND THE TELEPHONE LINES. SEPARATE TRANSMIT AND RECEIVE GAIN CONTROLS AND A NULL/MONITOR METER.

\$79

KENWOOD**DUMMY LOAD****SPECIFICATIONS**IMPEDANCE: 50 ohms
FREQUENCY RANGE AND VSWR: 0.5 - 50 MHz, 2:1:1

DC - 150MHz, 1.4:1

INPUT POWER: 300W (continuous)

Total dissipation 5 minutes on

3 hours off

Operating Temperature: See figure 21

Maximum Temperature: 200°C (392°F)

Cooling: Natural air flow

Dimensions: 85 x 410mm (3.35 x 16.14 in.)

Weight: 1.9kg (4.2 lbs.)

RD-300**RD-15**

50 ohms

50 ohms

DC - 50MHz, 1.1:1

DC - 450MHz, 1.2:1

15W continuous

50W continuous

50W intermittent - 5 minutes on

2 minutes off

2 million off

2 million off

See figure 21

See figure 21

200°C (392°F)

200°C (392°F)

Natural air flow

Natural air flow

26 x 83mm (1.75 x 3.14 in.)

26 x 83mm (1.75 x 3.14 in.)

100 x 102 mm (4 x 4 in.)

100 x 102 mm (4 x 4 in.)

\$115RD-300
Dummy Load
(300W)**\$17**RD-15
Dummy Load
(15W)

\$65

NEW MFJ VERSALOAD

New MFJ-250 VERSALOAD kilowatt dummy load lets you tune up fast. Extends life of transmitter finals. Reduces on-the-air QRM.

Run 1 KW CW or 2 KW PEP for 10 minutes, ½ KW CW or 1 KW PEP for 20 minutes. Continuous duty with 200 watts CW or 400 watts PEP. Complete with detuning curve.

Quality 50 ohm non-inductive resistor.
Oil cooled. Includes high quality, industrial grade transformer oil (contains HD PCB).

Low VSWR to 400 MHz: Under 1.2:1, 0-30 MHz 1.5:1, 30-300 MHz 2:1, 300-400 MHz

MORSE TUTOR D-70



DIPOLE ANTENNA AD270



\$129

DATONG
ELECTRONICS LIMITED

\$139 INSTANT MORSE PRACTICE

Imagine the convenience of having your own source of accurate Morse for instant receiving practice anywhere at any time! The Datong MORSE TUTOR produces digitally a random stream of five character groups at variable speed and with variable extra spacing between letters. You can select letters or numbers or a mixture and unlike records or tapes, the sequence never repeats. A Morse practice oscillator is also built in. Just plug in a standard key to practice sending.

A COMPACT INDOOR RECEIVING ANTENNA SYSTEM WITH WIDEBAND COVERAGE FROM 100 kHz TO 100 MHz

MODEL AD270 has no adjustment and needs no external tuning units. The actual antenna comprises a wire dipole (overall length only 3 metres) together with a rather special FET bipolar amplifier unit. The broadband signal from the remote antenna is piped via 17 type coax to the interface unit (which now contains a switchable 10dbm amplifier located near the receiver).

Although only 3 metres long, MODEL AD 270 has the same directional properties as a full-size dipole, even at 90kHz. Despite its small size, signal-to-noise ratios produced by MODEL AD270 at any frequency are similar to those from a conventional dipole cut to resonance for that frequency, and the unit makes an ideal accessory for a good coverage receiver where space for antennas is limited.

OUTDOOR ACTIVE DIPOLE ANTENNA MODEL AD370

Model AD370 makes an ideal outdoor (or indoor) antenna for use with good general coverage communications receivers.

- Weather resistant construction for outdoor use.
- Excellent sensitivity from 200 kHz to well over 30 MHz.
- Strong signal performance to professional standards.
- Overall length only 104 inches. Uses two taper-ground stainless steel whips 50 inches long.
- Fitted with 8 metres of coaxial down lead (easily extended if necessary).
- Good rejection of interference picked up by the feeder due to excellent balance.

\$179



CONVERTS INCOMING VLF SIGNALS TO FREQUENCIES 28MHz HIGHER,
FOR EASY TUNING ON NORMAL COMMUNICATIONS RECEIVERS.



\$81

- Covers 0 to 500kHz plus up to 1MHz at lower sensitivity.
- No receiver modifications are required.
- High sensitivity - only a short antenna is required.
- Crystal controlled for high stability.
- Rugged diecast aluminium case.
- SO239 coaxial connectors for input and output.
- Circuitry completely bypassed and antenna connected directly to receiver when Model VLF is switched off.
- Powered by internal 9 volt battery (PP3) or external supply.

GENERAL COVERAGE CONVERTER MODEL PC-1 \$389

Model PC-1 represents yet another contribution to the state-of-the-art from Datong. Combining a remarkable parametric mixer with LSI synthesiser Model PC-1 transforms any two-metre all-mode receiver or transceiver into a superb communications receiver covering 10 kHz to 30 MHz in thirty segments each covering one megahertz.

- Ultra simple controls — simply select the MHz band required on Model PC-1 and tune the kHz on your two metre receiver.
- High input intercept (15 dbm) means that PC-1 will not overload first.
- Correct input filters automatically selected by internal logic.
- Simply connects in two metre receiver's antenna lead.
- Gives full coverage from 30 MHz right down to below 20 kHz.
- Negligible internal noise generation.
- Fully digital LSI synthesiser design for long term reliability.
- Attractive green LED illuminated dials.
- Compact attractive styling blends with all modern transceivers.



DATONG ELECTRONICS LIMITED



\$199

AUDIO FILTER

MODEL FL1 is a most unusual audio filter. It is highly versatile add-on unit for communications receivers which gives great flexibility in helping to extract the signals you want (SSB, CW, RTTY etc.) from background interference. It simply connects in series with the loudspeaker or headphones. Fully variable bandwidth and centre frequency plus "flat-topped" pass-band response give similar effects to "I.F. pass-band tuning" for SSB or RTTY reception, and bandwidth down to 20Hz (with limited a.c.) gives an amazing capability for pulling weak CW stations out of the QRM.

MODEL FL1 is also completely unique in being able to tune itself when notching out unwanted whistles. That's why we call it the "Frequency-Agile Audio Filter." If a whistle appears on your channel, **MODEL FL1** will normally remove it from audibility within a couple of seconds . . . completely automatically! This ability makes conventional notch filters look positively stone-age and allows the notch width to be so narrow (5Hz) that you lose virtually nothing of the signal you want.

FL-2

FEATURES

- Twin sets of tunable active filters giving a new standard of performance to receive passbands.
- Independent low and high-pass filters for crystal filter interchange of flat-selectivity yet constant response. Frequency range 200 to 3000 Hz.
- Built-in independent bypass filter.
- Delivered specifically to amateur reception or SSB, CW, RTTY, AM, RDS in North America countries.
- Single push button selection of operating modes. Three separate tuning controls with capacitive touch plate.
- All front panel and controls are designed for convenient and reliable operation.
- Works with any receiver no internal connection required. Simply connect in series with all external modulators or phones.
- Protected against static build-up.
- 25 mm silicon IC's including IC matching.



\$279

APPLICATIONS

- Receiving of "noisy" shaped or "distorted" transmissions, i.e. SSB reception.
- Removal of harmonics, i.e. harmonics to SSB or AM.
- Multi-bandpass CW reception.
- CW/MW bandpass selection for RTTY and SSB reception.
- CW AM broadcast reception.
- Gains the benefits of "IF strip" or "pass-band" tuning techniques without the drawbacks.
- Any variable audio filtering application where very sharp low-pass continuous adjustment are important.

SPEECH PROCESSORS.

'LEAVE IT SWITCHED, I CAN'T COPY YOU WITHOUT IT'



ASP \$239

MODEL D-75 R.F. SPEECH PROCESSOR

- Input monitor LED — lights when clipping is between 0 and 20 db.
- Power-on LED.
- Low/high input-impedance selector.
- Stylish appearance to blend with any rig.

Remember all Datong R.F. clippers connect in series with your microphone. No internal connections are required. For R.F. clipping at minimal cost our MODEL RFC/M is still available. MODEL RFC/M is a fully assembled and tested R.F. clipper in PCB module form. You provide controls, case and power source.

\$175

\$175

\$175



RFC

\$139



RFC/M

\$79

The world famous **MODEL RFC** is still available and so is **MODEL RFC/M** which is a fully tested printed circuit board module as used in **MODEL RFC**.

TELEGRAPHIC KEYERS

NYE VIKING Speed-X KEYS

NYE VIKING CODE PRACTICE SET



\$33

You get a sure, smooth, Speed-X model 404-002 transmitting key; linear circuit oscillator and amplifier, with a built-in 2" speaker, all mounted on a heavy duty aluminum base with non-skid feet. Operates on standard 9V transistor type battery (not included).



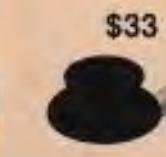
\$19

Model 114-310-003
Heavy die cast base with black wrinkle finish. With switch. Smooth adjustable bearings and heavy duty coin silver contacts.



\$189

SSK-1-K



\$33

Model 114-321-003
Heavy duty key with navy knob. Coin silver contacts. Chrome plated base with switch.

LAMBIC KEYER

Keys neg. or pos. keyed transmitter up to 200 Ma at 250 V.
115V AC of internal 9V batt.
Built-in audio osc. and speaker
5-50 w.p.m. speed control.

The new "Master Key" features an isolated contact assembly that keeps the keying circuit separated from the base, the key arm assembly and all exterior metal parts. Heavy die-cast body eliminates need for sub-base or securing to operating desk. Gold-plated silver contacts and adjustable key arm with Navy knob.



No. 114-330-001



\$43

Cat. No. SSK-1

Model SSK-1 Features: extra-long form-fitting molded paddles with adjustable spring tension, adjustable contact spacing. Knife-edge bearings. Extra-large, gold-plated silver contacts. Nickel-plated brass hardware. Heavy die cast base with non-skid feet. Base and dust cover black-crackle finished.

Shipping weight, 2½ pounds.

MEMORY KEYER SKM-1 \$279

All the features of the SSK-1-K plus selectable 4-256 Bit or 2-512 Bit or 1-1024 Bit Memories with Repeat Switch and Reset Button. Internal Nicad Holds Memories. Automatic Return to Playback after Recording.

KP-100 SQUEEZE KEY

- Transistor or relay switching keying
- Semi/Auto switch
- Auto character space switch
- Tone control
- AC 117/220V or DC 13.8V
- Weight control
- 130(W) x 70(H) x 230(D) mm.
- Weights 1.6 kg.



KATSUMI ELECTRIC

\$179



EK-150



\$149

ELE-KEY MODEL EK-150 FEATURES:

- Speeds from 8 to 60 w.p.m.
- Perfect 3 to 1 Dot to Dash ratio
- Plug-in unit P.C.B. and solid-state circuitry
- Full Dot and Dash memories
- Adjustable Tone and Volume of Side-Tone
- Built-in Speaker, Headphone Jack
- Switch for Semi (Bug)/Auto
- Power Supply 100-120V a.c. (50/60Hz) or 7-13.5V D.C.
- Built-in Relay and Transistor Switch keyed line, Relays rated max. 700V, 500mA; Transistor 150V, 2 AMP DC.

KM-22 PADDLE



\$59

KM-22
SIMILAR PADDLE TO THE EK-150
BUT NO ELECTRONICS
HEAVY BASE
— WEIGHS 1.2 KG.

BRASS POUNDER KEY

An excellent key for the beginner



\$8

Code Practice Oscillator



\$17

3-way operation: light indicator, variable pitch tone, or light-tone combined. Built-in speaker, terminals for keyearphone. Battery operated transistor oscillator. Two C batteries required.* Japan. 6 1/4" x 3 1/4" x 2".

MICROPHONES

KENWOOD MC-5G

50 kΩ/500 Ω
Desk Microphone



\$59

MC-60
DELUXE DESK-TOP
MICROPHONE



(50 kΩ/500 Ω)

\$99

• N4 - 6 pin (with UP/DOWN switch)
OR
• S8 - 8 pin (with UP/DOWN switch)

\$109

MC-45



\$69

MC-45 Touch-Tone® (with 500Ω automatic transmit) microphone.

MC-46



\$79

MC-46 16-key autopatch
UP/DOWN microphone

CURLY CORD



COILED MIC CORD WITH 4-PIN
MIC PLUG
6' EXTENDED, 16' COILED.

\$6

MC-10



\$20

MC-10
50 kΩ
Hand Microphone
50k Ohm Impedance
Freq. response 150 - 5000 Hz.
Also available, MC-10A
500 OHM Impedance

MC 30S, 35S



\$36

MC-30S (500Ω)
MC-35S (50 kΩ)
Hand Microphone
SELECTABLE NOISE
CANCELLING MIC

MC-40S



\$36

UP/DOWN
Microphone
for manual band scan.
500 Ω

DM-90A



\$18

500 OHMS

HC-10 DIGITAL WORLD HAM CLOCK



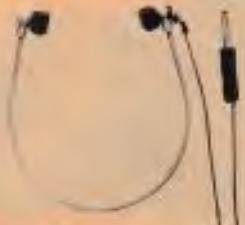
THE HC-10'S EXCITING FEATURES INCLUDE:

- Two 24-hour displays with a high-precision quartz time base.
- Preprogrammed time differences of 10 major cities around the world (GMT, PARIS, TOKYO, SYDNEY, HONOLULU, LOS ANGELES, CHICAGO, NEW YORK, CARACAS, RIO DE JANEIRO) plus two additional programmable regions.
- Large fluorescent display tubes, to allow fast, easy reading.
- "TOMORROW" and "YESTERDAY" indicators, to prevent confusion on date and hour at individual cities.
- Memorization of present time (such as QSO starting time) and recall later (such as an QSO ending time). Recalled starting time is shown on left display, and ending time on right display.
- Adjustable, functional layout, with switch buttons on slanted panel. Cabinet is triangular prism shaped for stability. With a pleasing color combination and modern styling, the HC-10 will enhance the appearance of any ham shack.

\$179

HEADPHONES

TELEX.



HFC-91

Ultralight underchin. Acoustic delay of 1 millisecond enhances intelligibility on CW or SSB. Shaped response, 100-3000 Hz. Low impedance, 8-20 ohms. Weight, 1.5 ounces (42.5 g).

ORDER NO. 1300

\$15



HMC-2

Featherweight underchin, adjustable rugged aluminum tone arms direct signals into the ear. Great for contests. 100-3000 Hz. Low impedance, 8-20 ohms. Weight, 1.2 ounces (34 g).

ORDER NO. 1301

\$24



HTC-2

Lightweight dual driver headset. Choice of the "pros" who must wear them for hours. 100-3000 Hz. Low impedance, 8-20 ohms. Weight, 1.6 ounces (45.4 g).

ORDER NO. 1302

\$39



PRO COM 200

This dual muff headset has a powerful, blacked microphone with a typical frequency response of 200 to 6000 Hz. The microphone is dual impedance (low 500 - high 10,000 ohms). The headphones is low impedance (8-20 ohms) and has a very sensitive 200 to 12,000 Hz frequency response.

ORDER NO. 1310

Weight, 1.7 ounces (48 g)

\$139



C-610

An ideal lightweight headphone for code courses, code practice or actual operating. Low impedance (8-20 ohms), 50-12,000 Hz. Weight, 8 ounces (227 g).

ORDER NO. 1303

\$20



SWL-610

2000 ohms impedance, 50-12,000 Hz. Weight, 8 ounces (227 g).

ORDER NO. 1304

\$23



PC-100

Full cushion comfort and long life make this dynamic headphone ideal for the novice. 50-12,000 Hz, 8-150 ohms. Weight, 12 ounces (340 g).

ORDER NO. 1305

\$27



C-1320

C-1320 is the "top of the line". Fully cushioned, audiometric type drivers are ultra-sensitive. It's the DXers' choice. 20-20000 Hz, 8-20 ohms. Weight, 15 ounces (425 g).

ORDER NO. 1307

\$70

CS-7

The CS-7 is same as C-1320 above except - 800 ohms. ORDER NO. 1308

\$79



C-1210

Ultimate in comfort and performance. Mylar diaphragms assure continued sensitivity for digging out those weak signals. 20-20000 Hz, 8-20 ohms. Weight, 12 ounces (341 g).

ORDER NO. 1306

\$47



HEADPHONE JACK BOX

Ham clubs, field days or contest operation. No more "jerry rigs" for multiple headphone operation. Six 1/8" 16.4mm phone jacks with individual volume controls. 4' (1.2m) cord with 1/8" (6.4mm) phone plug. Ideal for code classes.

ORDER NO. 1309

\$24



PRO COM 300

The Contester

The ultimate in comfort, the Pro Com 300 is an ultralightweight single-driver headset. It is fitted with a powerful, electret microphone. This dual impedance (low 500 - high 10,000 ohms) microphone has a 200 to 3000 Hz frequency response specifically tailored to the human voice. The low 8-20 ohms impedance, dynamic receiver element has a sensitive balanced frequency response of 300 to 30000 Hz.

ORDER NO. 1314

Weight, 1.7 ounces (48 g)

\$155



**HS-4 (8Ω)
Headphones**

\$26

**HS-5 (8Ω)
Deluxe
Headphones**

HS-6

\$55



MODEL HS-4: Comfortable communications headphones with a natural sound. Freq. response: 300-3000 Hz.

MODEL HS-5: Deluxe communications headphones with interchangeable ear pads for best performance under varying background noise conditions. Freq. response: 150-4000 Hz.

\$31

KENWOOD

POWER SUPPLIES

PS-20



\$129

Supplies regulated 13.8V DC at 4A continuous, 4.5A intermittent load with complete ease and safety due to the use of generous heat sinks and an automatic reset electronic overload trip.

SPECIFICATIONS

- Power Consumption: Approx. 100W
- Output Voltage: 13.8V DC
- Output Current: 4.5A (Intermittent load 50% duty cycle), 4A (Continuous load Current)
- Output Voltage Fluctuation: Within ± 50 mV (at load current 4A), Within 0.1V at 0-4A of load current
- Ripple Voltage: Less than 5 mV at 13.8V DC, 4A
- Dimensions: 123 (4-7/16)W x 96 (3-13/16)H x 235 (9-1/4)D mm (inch)
- Weight: 3.8 kg (8.4 lbs)

PS-6



\$139

• Built-in Speaker

SPECIFICATIONS

- Power Consumption: Less than 90W
- Output Voltage: DC 13.8V
- Output Current: Intermittent 3.5A Continuous 2A
- Protection Circuit: Operating point at output current 4.5A/SPEAKER SECTION
- Rated Input: 115V
- Impedance: 8 ohms
- Speaker Diameter: 27 mm (1 inch)
- Frequency Response: 200-3,500 Hz
- Dimensions: 152 (6)W x 90 (3-9/16)H x 214 (8-7/16)D mm (inch)
- Weight: 3.2 kg (7.1 lbs)

KDR 123P



\$39

UNIVERSAL 2 MTR. POWER SUPPLY. 117V SUPPLIES 12V at 3 AMP REGULATED. GOOD FOR MOST 10W 2 MTR. RIGS.

PS-30



\$189

The PS-30 has the large current capacity (with 50% intermittent load duty cycle) of 20A, including 5A of the external terminal load current for convenience when using other instruments or conducting a variety of tests, etc., and supplies DC power of good quality due to the voltage stabilizing and ripple reducing circuits.

SPECIFICATIONS

- Power Consumption: Approx. 600W
- Output Voltage: 13.8V DC
- Output Current: 20A (Intermittent load 50% duty cycle), 15A (continuous load current)
- Output Voltage Fluctuation: Within ± 700 mV (at load current 20A), Within 400 mV at 2-20A of load current
- Ripple Voltage: Less than 20 mV at 13.8V DC, 20A
- Dimensions: 180 (7 1/16)W x 133 (5-1/4)H x 287 (11-5/16)D mm (inch)
- Weight: 9 kg (19.6 lbs)

KPS-12



\$169

Output Current	:	12 A Intermittent (50% Duty cycle) 10 A Continuous
Ripple Component	:	Less than 1 mV (r.m.s.) (at 10 A output current 120 VAC \pm 10 V input)
Regulation	:	Less than ± 0.05 V
Protection Circuit	:	Current-limiting circuit activates at 13 ~ 15 A

EJL 13-20A



\$149

Model 13-10A

SPECIFICATIONS:	13-20A	OUTPUT CURRENT (max)	20 AMPS
INPUT VOLTAGE	115-125 VAC	RIPPLE AND HUM (full load)	335 VRMS
INPUT CURRENT	3.5A AMPS	DIMENSIONS	279 x 237 x 140mm
OUTPUT VOLTAGE (no load)	12.7 VDC	WEIGHT	10.7 x 11.5 x 5.5 in.
OUTPUT VOLTAGE (full load)	12.7 VDC		10.8 kgs. (24 lbs.)

HODEC

125P
Pilot
Light

***85**

125 MW
Volts/Amp.
Meter

***99**



Input: 117V Output: 13.5V
5 Amps constant, 7 Amps surge

GOOD FOR MOST 25W 2MTR RIGS

Ripple RMS: 10 MV Max.
Load Reg: 0-8V Max.

TS-660

"Quad Bander"

...dual VFOs,

memory,

IF shift,

scan,

FM, SSB,

CW, AM

The TS-660 is a unique, all-mode transceiver designed for operation on 6, 10, 12, and 15 meters.

TS-660 FEATURES:

- FM, SSB (USB), CW and AM operation.
- 10 Hz step digital VFO. The frequency step is determined by mode of operation.
- RIT control.
- Noise blanker.
- Frequency lock function switch.
- IF SHIFT circuit built-in.
- Fluorescent digital display shows Tx/Rx frequencies.
- Squelch circuit for FM, SSB, CW and AM.
- CW semi break-in circuit, with CW side tone.
- 10 W RF output on SSB, CW, FM, 4 W on AM.
- Two antenna terminals provided.



\$949

OPTIONAL ACCESSORIES:

- PS-20 power supply. \$129
- SP-120 external speaker. \$57
- MB-100 mobile mounting bracket. \$43
- YK-88C normal CW, (500 Hz) filter or YK-88CN narrow band CW, (270 Hz) filter. \$83
- YK-88A AM (6 kHz) filter. \$83
- VOX-4 speech processor/VOX unit. \$89

TR-8400

"Go synthesized on 440 MHz FM".
5 memories, memory/band scan



\$679

TR-8400 FEATURES:

- Synthesized coverage of 440-450 MHz in 25-kHz steps.
- Automatic scan of memories and of 440-450 MHz band (in 25-kHz steps). Locks on busy channel and resumes when signal disappears. HOLD or mic PTT button cancels scan.
- TONE switch to activate sub-tone device (not Kenwood-supplied). DTMF (Touch-Tone) terminal on rear panel.
- Four-digit frequency display and S/RF bar meter. Other LEDs indicate BUSY, ON AIR, and REPEATER operation.
- HI/LOW (10 W/1 W) RF output power switch.

- Five memories and memory backup terminal on rear panel.

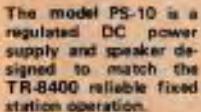
- Up/down manual band scan in 25-kHz steps with UP/DOWN microphone supplied with TR-8400.

- Only 5-3/4 inches wide, 2 inches high, and 7-5/8 inches deep. Weighs only 3.75 pounds.

MATCHING PS-10 (POWER SUPPLY)

\$149

- Power requirement: 120/220/240V AC, 50-60 Hz. • Power consumption: 80W (approx.)
- Output voltage: 13.8V DC • DC current: 3.5A (intermittent load, 50% duty cycle), 3A (continuous load current). • Output fluctuation: within ±50 mV (at 3.5 A load current), within 0.1 V (at 0-3.5 A load current). • Ripple voltage: less than 5 mV at 13.8 V DC, 3.5 A. • Back-up voltage: current: 13.8V DC, 2.5 mA. • Dimensions: 145 (5.87W x 73 (2.91H x 180 (7.23D mm (inch)). • Weight: 3.3 kg (7.3 lbs.) approx.



TR-8400.

[SPEAKER]

- Max. input power: 1.5 W • Impedance: 8Ω • Diameter: 60 mm



NEW TR-7730

Miniaturized, 5 memories, memory/band scan



KENWOOD



\$449

FEATURES:

- **Smallest ever Kenwood mobile**
Measures only 5-3/4 inches wide, 2 inches high, and 7-3/4 inches deep, and weighs only 3.3 pounds. Mounts even in the smallest subcompact car, and is an ideal combination with the equally compact TR-4400 synthesized 70-cm FM mobile transceiver.
- **25 watts RF output power**
Even though the TR-7730 is so compact, it still produces 25 watts output for reliable mobile communications. HI/LOW power switch selects 25-W or 5-W output.
- **Five memories**
May be operated in simplex mode or repeater mode with the transmit frequency offset ± 600 kHz. The fifth memory stores both receive and transmit frequency independently, to allow operation on repeaters with nonstandard splits. Memory backup terminal on rear panel.

- **Memory scan**
Automatically locks on busy memory channel and resumes when signal disappears or when SCAN switch is pushed. Scan HOLD or microphone PTT switch cancels scan.
- **Extended frequency coverage**
Covers 143.900-148.995 MHz in switchable 5-kHz or 10-kHz steps, allowing simplex and repeater operation on some MARS and CAP frequencies.
- **Automatic band scan**
Scans entire band in 5-kHz or 10-kHz steps and locks on busy channel. Scan resumes when signal disappears or when SCAN switch is pushed. Scan HOLD or microphone PTT switch cancels scan.
- **UP/DOWN manual scan**
With UP/DOWN microphone provided, manually scans entire band in 5-kHz or 10-kHz steps.

- **Offset switch**
Allows VFO and four of five memory frequencies to be offset ± 600 kHz for repeater access or to be operated simplex during transmit mode.
 - **Four-digit LED frequency display**
Indicates receive and transmit frequency during simplex or repeater-offset operation.
 - **S/RF bar meter and LED indicators**
Bar meter of multicolor LEDs shows relative receive and transmit signal levels. Other LEDs indicate BUSY, ON AIR, and REPEATER offset.
 - **Tone switch**
Activates internal subaudible tone encoder (not Kenwood-supplied).
- Optional accessories:**
- MC-46 16-button autopatch (DTMF) UP/DOWN microphone
 - SP-40 compact mobile speaker

SPECIFICATIONS

[GENERAL]

Frequency Range:

144.000 to 147.995 MHz

Mode:

F3

Power Requirement:

13.8 V DC $\pm 10\%$

Grounding:

Negative

Current Drain:

Less than 0.4 A in receive mode with no input signal

Less than 5.5 A in HI (25 W) transmit mode

Less than 2.5 mA for memory back-up (power OFF)

Operating Temperature:

-20°C to +60°C

Audio Output Impedance:

8 Ω

Audio Input Impedance:

500 Ω (with UP/DOWN microphone)

RF Output Impedance:

50 Ω

Dimensions:

147.5(5.81W) x 51.6(2.01H) x

198.7(7.81D) mm (inch)

Weight:

1.5 kg (3.3 lbs) approx.

[TRANSMITTER]

RF Output power:

HI = 25 W

LOW = 5 W approx.

Less than < 20 PPM

-10°C to +50°C

Less than -60 dB (HI)

Variable Reactance Direct Shift

Less than ± 5 kHz

Spurious Radiation:

Double Conversion Superheterodyne

Modulation:

1st IF = 10.7 MHz

2nd IF = 455 kHz

Less than 0.25 μV for 12 dB SINAD

Better than 0.5 μV for 30 dB S/N

Better than 12 kHz (-6 dB)

Less than 25 kHz (-60 dB)

Better than 50 dB

Less than 0.15 μV (threshold)

More than 2 W (B III)

Maximum Frequency Deviation:

Intermediate Frequency:

1st IF = 10.7 MHz

2nd IF = 455 kHz

Less than 0.25 μV for 12 dB SINAD

Better than 0.5 μV for 30 dB S/N

Better than 12 kHz (-6 dB)

Less than 25 kHz (-60 dB)

Better than 50 dB

Less than 0.15 μV (threshold)

More than 2 W (B III)

BC-1

AC ADAPTOR FOR
MEMORY BACK-UP



\$79

MC-46 16-key autopatch
UP/DOWN microphone.



\$20
This charger is used as a
memory back-up power
supply when the main
power supply is off.

• SP-40 Compact Mobile Speaker



Very small, high-quality
mobile speaker, which
can be mounted virtually
anywhere.

Max. input:	3 W
Impedance:	4 Ω
Dimensions:	69(2.71W) x 64(2.61H) x 54(2.21D) mm (inch)
Weight:	250 g (0.5 lbs) approx.

\$30

**ANOTHER
TR-7800 2 METER FM TRANSCEIVER TR-7850**

**\$559 THE BEST GETS BETTER — NOW AVAILABLE \$629
WITH EITHER 25W OR 40W OUTPUT.**



Kenwood's remarkable TR-7800 2-meter FM mobile transceiver provides all the features you could desire for maximum operating enjoyment. Frequency selection is easier than ever, and the rig incorporates new memory developments for repeater shift, priority, and scan, and includes a built-in autopatch DTMF encoder.

FEATURES

15 multifunction memory channels, easily selectable with a rotary control

M1-M13...memorize frequency and offset (± 600 kHz or simplex).

M14...memorize transmit and receive frequencies independently for nonstandard offset.

M0...priority channel, with simplex, ± 600 kHz, or nonstandard offset operation.

Internal battery backup for all memories

All memory channels including transmit offset are retained when four AA NiCd batteries (not Kenwood supplied) are installed in battery holder inside TR-7800. Batteries are automatically charged while transceiver is connected to 12-VDC source.

Priority alert

M0 memory is priority channel. "Beep" alerts operator when signal appears on priority channel. Operation can be switched immediately to priority channel with the push of a switch.

Extended frequency coverage

143.900-148.995 MHz, in switchable 5-kHz or 10-kHz steps.

Built-in autopatch DTMF (Touch-Tone®) encoder

Front-panel keyboard

For frequency selection, transmit offset selection, memory programming, scan control, and selection of autopatch encoder tones.

Autoscans

Entire band (5-kHz or 10-kHz steps) and memories. Automatically locks on busy channel; scan resumes automatically after several seconds unless CLEAR or mic PTT button is pressed to cancel scan.

Up/down manual scan

Entire band (5-kHz or 10-kHz steps) and memories, with UP/DOWN microphone (standard).

Repeater reverse switch

Handy for checking signals on the input of a repeater or for determining if a repeater is "upside down."

Separate digital readouts

To display frequency both receive and transmit and memory channel.

Selectable power output

25 watts (Hi) / 5 watts (Low).

LED bar meter

For monitoring received signal level and RF output.

LED indicators

To show: ± 600 kHz, simplex, or -600 kHz transmitter offset; BUSY channel; ON AIR.

TONE switch

To activate subaudible tone module (not Kenwood supplied).

Compact size

Depth is reduced substantially.

Mobile mounting bracket

With quick-release levers.



HIPOWER ADAPTER

NI-CAD CHARGER MODEL NO. 645CS

IDEAL FOR USERS OF:
PORTABLE TRANSCEIVERS
CASSETTE RECORDERS,
CALCULATORS,
— AND ESPECIALLY AT CHRISTMAS —
TOYS
CSA APPROVED. *

INSTRUCTIONS:
The MODEL 645CS ni-cad charger is provided with 3 "snap-on" holders so that you can charge, at one time two cells, three cells or four cells. Be careful to observe polarity when inserting cells in the holders, that is the positive (+) end of the cell must correspond to the positive (+) mark on the holder. Clip the cell holder firmly to the terminals on the charger and then plug the charger into any standard AC wall outlet. After 15 hours the nickel cadmium cells will be fully charged.

RARE NICADS

In some areas handy-talkie owners are having a hard time finding rechargeable nicad penlight cells. The scarcity, according to one radio store owner, is the result of the popularity of battery powered Christmas toys and games. People are catching on that a small charger and nicad batteries are a better buy than the disposable alkaline and carbon types.

NICADS — "AA" SIZE
\$3 each



IS BACK IN CANADA

YOU WON'T BELIEVE THIS PRICE

COMPLETE WITH TOUCH-TONE® MIC.



- 25 WATTS
- 10 MEMORIES
- BAND & MEMORY SCAN

**144MHz C-MOS MICROPROCESSOR CONTROLLED DIGITAL PLL FM TRANSCEIVER
10 MEMORY CHANNELS, MEMORY AND BAND SCANNING**

FREQUENCY COVERAGE

A. 144-145 MHz, TX & RX in 5KHz steps.

RECEIVER

Another SUPER RECEIVER from KDK! UHF (QSO-VHF) dual gate MOS-FETs with electronic auto-tuning for RF amplifier and 1st mixer, VHF MOS-FET for 1st IF amplifier. One-chip multi-purpose LSI for all 2nd IF and detector related circuits plus squelch and audio pre-amplifier. Ultra-sensitive squelch with wide range front panel control provides maximum flexibility to set squelch at optimum level for whatever type QSO is intended, ultra-vox or super local. New high output audio IC with internal protection against over-voltages and shorted output circuits.

TRANSMITTER

New transmitter continuing in the KDK tradition. Direct VCO varicap modulation gives true FM, not phase modulation. VCO operates on final transmit frequency; eliminates mixers and multiplying stages. Use of newest high power gain transistors achieves 2-stage only exciter. New high power gain output power module will not break down even with infinite VSWR load. Heavy duty solid state antenna switching followed by 4 stage low pass filter. All these combine to provide exceptionally clean, spur free output. APC (auto-power control) protects against accidental over power transmission and unintentional off-band transmission.

10 CHANNELS OF COMPUTER MEMORY

Frequencies may be stored and recalled from memories at any time, by simple operation of rotary switch and the WRITE button. No need to watch knobs when turning them, again facilitating eyes on the road operations. For easy use, memories are split into two groups of 5 memories, A1 - 5 and B1 - 5.



INTERNAL MEMORY BACK-UP BATTERY



The C-MOS microprocessor needs only 57 nano-amps to hold memory contents. Not milli-amps or micro-amps. Internal battery will hold memory contents for more than a year! Also holds DIAL setting electronically even if DIAL knob is accidentally moved while transceiver is turned off. No need to mess around with back-up cables, switches, plugs, etc.

THE MORE MEMORY CHANNELS A TRANSCEIVER HAS, THE MORE IMPORTANT THIS FEATURE IS!

MEMORY SCANNING

Full auto-scan of each group of memory, A1 - A5, and B1 - B5. Scanning in two modes: CLOSED — scanning stops at Busy channel, OPEN — scanning stops at vacant channel. HOLD — permits instant operation on channel located by scanning.

PROGRAMMABLE BAND SCANNING

For band scanning, unit scans upwards in 5KHz (12.5KHz) increments. Starts at frequency stored in memory A5 until reaching frequency stored in memory B5. Upon reaching upper limit B5, returns and resumes scanning from lower limit A5. Scanning in two modes, OPEN, CLOSED, and HOLD features same as for memory scanning. A zero-cross detector is provided to prevent scanning from stopping prematurely before reaching true center of channel. Scanning increments may be changed by diode matrix changes. Scanning in larger increments will result in faster scanning.

DUPLEX USING OFFSET SWITCH



SIMP position for sending and receiving on same frequency. + and -6 positions give + and -600KHz transmitter frequency offset for working with repeaters. Offset may be changed by simple diode changes in matrix.

Front panel LED's display both transmitting and receiving frequencies as switched by operation of P/T switch.

DUPLEX USING MEMORY CHANNELS

Mode switch position AxB gives 5 pairs of duplex operation with any offset within frequency coverage of transceiver and dialling increments. Unit receives on A memory frequencies and transmits on corresponding B memory frequencies. For example, if memory A2 is 145.700 and B2 is 146.995MHz, unit will receive on 145.70 and transmit on 146.995MHz. Front panel LED's will switch automatically with P/T switch and always show actual frequency being received or transmitted.

INTERNAL MULTI-PURPOSE TONE OSCILLATOR
100Hz (1750Hz) sub audible tone (tone burst). Frequency may be retuned by adjusting internal trim-pot. For larger changes exceeding full range of trim-pot, change capacitor values.

180W x 60H x 195D mm.

NOW INCLUDES A FREE TOUCH-TONE® MIC (VALUE \$65).

ONLY \$399

All mode (FM/SSB/CW) 25 watts, plus...!!!

NEW

TR-9130



\$749

FEATURES

25 Watts RF output

All modes, FM/SSB/CW, utilize a new high power linear module, for more reliable FM operation and increased DX on SSB or CW.

FM/USB/LSB/CW all mode operation

For added convenience in all modes of operation, the mode switch, in combination with the digital step (DS) switch, determines the size (100 Hz, 1 kHz, 5 kHz, 10 kHz) of the tuning step, and the number of digits displayed.

Six memories

On FM, memories 1 through 5 for simplex or ±600 kHz offset, with the OFFSET switch. Memory 6 for non-standard offset. All six memories may be operated simplex, any mode.

Memory scan

Scans memories in which data is stored. Stops on busy channels.

Internal battery memory back-up

With 9 volt Ni-Cd battery installed, (not KENWOOD supplied), memories will be retained approximately 24 hours, adequate for the typical move from base to mobile. A terminal is provided on the rear panel for connecting an external back-up supply.

Compact size and light weight

170 (6-11/16) W x 68 (2-11/16) H x 241 (9-1/2) D mm (inch). 2.4 kg (5.3 lbs.) weight.

Automatic band scan

Scans within whole 1 MHz segments (i.e., 144.0-144.999 MHz), for improved scanning efficiency.

Dual digital VFO's

Incorporates two built-in digital VFO's selected through use of the A/B switch and individually tuned.

Transmit frequency tuning for OSCAR operations

On SSB or CW, the tuning knob or UP/DOWN buttons on the microphone may be used to adjust the transmit frequency during transmission.

16-key autopatch UP/DOWN microphone version

The TR-9130 is available with the MC-48 16-key autopatch UP/DOWN microphone, or with the basic UP/DOWN microphone. Manual UP/DOWN scan of entire band possible using either microphone.

Squelch circuit on all modes (FM/SSB/CW)

The squelch circuit is effective on SSB, CW, and FM.

Repeater reverse switch

For checking signals on the repeater input, on FM.

Tone switch

For activating a tone device, (not KENWOOD supplied).

CW semi-break-in circuit with sidetone

Built-in, for convenience in CW operations.

Extended frequency range

Covers 143.9 to 148.999 MHz, which includes certain MARS and CAP frequencies.

Transmit offset switch

High performance noise blanker

Suppresses pulse-type noise on SSB and CW.

RF gain control

For all modes of operation.

RIT (Receiver Incremental Tuning) circuit

Useful during SSB/CW operations.

Amplified AGC

Enhances SSB and CW operation. The AGC time constant is automatically optimized for each mode of operation.

HI/LOW power switch

Selects 25 or 5 watts RF output on FM or CW.

Accessory terminal

A four pin accessory terminal is provided for use with a linear amplifier or other accessory.

Quick release mounting bracket (Supplied)

Digital display with green LED's

High performance receive-transmit design

The use of a low-noise dual-gate MOSFET plus two monolithic crystal filters in the receiver front-end results in excellent two signal characteristics. Care in transmitter design assures clean signals in all modes.



ONLY 2 LEFT

CLEARANCE SALE TR-9000

ONLY \$649

The TR-9000 combines the convenience of FM with long distance SSB and CW. It is extremely compact... perfect for mobile operation. Matching accessories are available for optimum fixed-station operation.

Five memories... four for simplex or ±600 kHz repeater offsets and the fifth for a non-standard offset (memorizes transmit and receive frequency independently).

Two digital VFOs, with selectable tuning steps of 100 Hz, 5 kHz, and 10 kHz. FM, USB, LSB, and CW. Only 6-11/16 inches wide, 2-21/32 inches high, 9-7/32 inches deep.



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TR-2500


KENWOOD
...pioneer in amateur radio

BIG performance. small size... smaller price!!!

The TR-2500 is a compact 2 meter FM handheld transceiver featuring an LCD readout, 10 channel memory, lithium battery memory back-up, memory scan, programmable automatic band-scan, Hi/Lo power switch and built-in sub-tone encoder.

- **Extremely compact size and light weight**
Measures 6.9 (2.5/8 W x 16.8 (6.5/8) H x 4.0 (1.5/8) D, mm incised. Weighs 540 grams (1.2 lbs) with Ni-Cd pack. (Photo shown, actual size.)
- **LCD digital frequency readout**
Easy to read in direct sunlight or dark with lamp switch. Low current drain. Shows frequencies and memory channels, plus four "Arrow" mode indicators.
- **Ten channel memory**
Nine memories for simplex or ±500 KHz offset. "M0" memory for non-standard split frequency repeaters.
- **Lithium battery memory back up**
Built-in Lithium battery (estimated 5 year life) maintains memory when Ni-Cd pack is fully discharged or removed.



ST-2

CONVENIENT TOP CONTROLS



- **Hi/Lo power output selection**
Allows operation at 2.5 watts or 300 mw RF output.



MS-1

- **Memory scan**
Scans only channels in which frequency data is stored. Stops on busy channel, resumes scan approximately 2 seconds after signal ceases.
- **Programmable automatic band scan**
Upper and lower frequency limits and seven steps of 5 KHz and larger (5, 10, 15, 20, 30 KHz, etc.) may be programmed. Scan locks on busy channel, resumes approximately 2 seconds after signal ceases.
- **UP/DOWN manual scan**
Up/Down manual scan in 5 KHz steps.
- **Built-in tunable sub-tone encoder**
Sub-tone encoder, with activate switch, tunable (variable resistor) to desired CTCSS tone. Optional TU-1 programmable DIP-switch encoder accessory available.
- **Built-in 16 key autopatch encoder**
16 keys provide telephone dual tone modulation.
- **"SLIDE-LOC" battery pack**
Slides into position, locks into place.
- **Reverse operation**
Shifts receiver to transmit frequency, and transmitter to receive frequency.
- **Keyboard frequency selection**
Sets operation frequency across full range.
- **Extended frequency coverage**
Covers 143.900 to 148.995 MHz in 5 KHz steps.
- **Optional power source**
Using optional MS-1 mobile or ST-2 AC charger power supply, radio may be operated while charging. (Automatic drop in connection.)
- **High impact plastic case**
Provides extra strength to resist damage.
- **Battery status indicator**
Flashes to indicate low battery charge level.
- **Two lock switches**
Prevent accidental frequency change and accidental transmission.
- **Standard accessories included:**
 - Flexible rubberized antenna with BNC connector
 - 400 mAh heavy-duty Ni-Cd battery pack
 - AC charger
 - Plugs for external microphone and speaker.

OPTIONAL ACCESSORIES:

- ST-2 Base station power supply and quick charger (approx. 1 hr.) **\$109**
- MS-1 13.8 VDC mobile stand/charger/power supply **\$85**
- TU-1 Programmable "DIP switch" (CTCSS) encoder **\$38**
- SMC-25 Speaker microphone. **\$38**
- LH-2 Deluxe top grain cowhide leather case. **\$75**
- PB-25 Extra Ni-Cd battery pack, 400 mAH, heavy-duty **\$49**
- BT-1 Battery case for AA manganese or alkaline cells (not Ni-Cd). **\$17**
- VB-2530 RF power amplifier. **\$129**
- SC-4 soft vinyl case with belt clip. **\$29**

JRC Japan Radio Co., Ltd.

WHEN ONLY THE VERY BEST IS GOOD ENOUGH

MRD-515



\$2249

• MEMORY UNIT NDH-518

The memory unit can be easily mounted on the receiver, into which the connecting cable connector must only be plugged in. The NDH-518 has a 96-channel capacity, allowing you to enjoy upgraded and sophisticated operation.

- Channels: 96 channels
- Input/output data: 22-bit BCD code
- Write-in: Voluntary
- Dimensions: 340(W) x 50(H) x 200(D) mm
- Weight: Approx. 3.5kg

\$400

• LOUDSPEAKER NVA-815

Beautifully finished to fit the design of the receiver. Clear and soft tone quality assured.

- Impedance: 4 ohms
- Max. input power: 3W
- Dimensions: 130(W) x 140(H) x 200(D) mm
- Weight: Approx. 1kg

\$60

SPECIFICATIONS

Receiving frequency range	100kHz to 30MHz
Receiving modes	RTTY/CW/USB/LSB/AM
Receiving system	Double superheterodyne
	First IF 70.455 MHz
	Second IF 455 kHz
Sensitivity (S/N: 10dB)	CW/SSB AM
1.6 to 30 MHz	Less than 0.5μV Less than 2μV
100 to 1600 kHz	Less than 2μV Less than 6μV
Selectivity:	-6dB -600Hz
6kHz	4kHz or more 10kHz or less
2.4kHz	2kHz or more 6kHz or less
*0.6kHz	0.5kHz or more 3kHz or less
*0.3kHz	0.26kHz or more 2kHz or less
Frequency stability	* mark denotes option.
Image rejection ratio	Less than 50Hz per hour after warming up.
IF rejection ratio	70dB or more
Input impedance	70dB or more
AF outputs:	50 to 75 ohms, unbalanced
Speaker output	1W or more (4 ohms)
Recordline output	1mW or more (600 ohms)
Power requirements	100/117/220/240V AC, 50/60Hz, approx. 50VA
Dimensions	Height 140mm
	Width 340mm
	Depth 300mm
Weight:	Approx. 7.5kg

• 600Hz FILTER CFL-260 \$85

Provides sharp selectivity, ensuring comfortable CW reception. Must only be plugged into the receiver unit.

• 300Hz FILTER CFL-230 \$125

Provides sharp selectivity in CW reception, rejecting interference.

RF-3100

The Panasonic RF-3100 portable 31-Band portable radio has PLL Quartz-Synthesizer tuning that "locks" onto SW stations. Operates on AC or battery. SW frequencies from 1.6 to 30 MHz. are in 29 bands. All-band 5-digit frequency readout. Horizontal design with front mounted controls for shoulder strap operation. Double superheterodyne for clean SW reception. BFO pitch and RF gain controls. Separate bass and treble controls. Wide/Narrow bandwidth selector. Meter for tuning and battery strength. LED operation indicator. Meter light switch. 3 1/2" PM dynamic speaker. Comes with detachable shoulder belt. Battery power (8 "D" batteries not included). Made in Japan.

\$489

Panasonic



RF-3100



Panasonic
RF-6300

\$1099

The new Panasonic RF-6300 Command Series PLL synthesized 8-band portable communications receiver, lets you hear the world. The RF-6300 has features such as microcomputer pre-set tuning and PLL quartz synthesized digital tuner. Microcomputer stores up to 12 different frequencies for push-button recall. FM/MW/LW/SW1-5 reception. Manual tuning knob. Wide/Narrow bandwidth selector. Double superheterodyne system. Fast/Slow manual tuning. Built-in quartz digital alarm clock. 5 inch dynamic PM speaker. 3 antennas. Multi-voltage. Detachable AC cord. Operates on 6 "D" batteries (not included). Made in Japan.

KENWOOD

R-1000 SWL RECEIVER

Now, a high-performance, easy-to-operate Communications Receiver with single-knob tuning system and digital frequency display!

R-1000 \$649

Its many features include:
Built-in quartz digital clock with timer

Precise 12-hour clock with AM and PM indicators. Timer turns on radio for scheduled listening, and even controls a recorder through remote terminal.

Up-conversion PLL, wideband RF circuits

Provide exceptional performance and easy operation without the need for bandspread, preselector, or antenna tuning. Excellent sensitivity, selectivity, and stability.

Three IF filters for optimum AM, SSB, CW

12-kHz and 6-kHz (adaptable to 6-kHz and 2.7-kHz) filters for AM wide and narrow, and 2.7-kHz filter for high-quality SSB (USB and LSB) and CW reception.

Communications-type noise blanker

Eliminates ignition and other pulse-type noise. Superior to noise limiter.

Step attenuator

0-60 dB in 20-dB steps. Prevents overload.

Continuous frequency coverage from 200 kHz to 30 MHz

Receives shortwave, medium-wave, and long-wave bands.

30 bands, each 1 MHz wide

Easy-to-use band switch with large knob.

Five-digit frequency display and analog dial

Accurate digital display with 1-kHz resolution and illuminated analog dial with precise gear dial mechanism.

Dimmer switch

Controls S-meter and other panel lights and digital display intensity.

Recording terminal

For external tape recorder.

Three antenna terminals

Wire terminals for 200 kHz to 2 MHz and 2 MHz to 30 MHz. Coax (SO-239) terminal for 2 MHz to 30 MHz.

Selectable operating voltage

AC voltage selector for 100, 120, 220 and 240 VAC. Also adaptable to operate on 13.8 VDC (With optional DCK-1 kit).

Tone control

For desired audio response.

Built-in 4-inch speaker

For quality sound reproduction.

DCK-1
\$10
THE NEW KENWOOD

R-600 COMMUNICATIONS RECEIVER


\$549
R-600 FEATURES:

- 150 kHz to 30 MHz continuous coverage, AM, SSB, or CW.
- 30 bands, each 1 MHz wide, for easier tuning.
- Five digit frequency display, with 1 kHz resolution.
- 6 kHz IF filter for AM (wide), and 2.7 kHz filters for SSB, CW and AM (narrow).
- Up-conversion PLL circuit,

for improved sensitivity, selectivity, and stability.

- Communications type noise blanker eliminates "pulse-type" noise.
- RF Attenuator allows 20 dB attenuation of strong signals.
- Tone control.
- Front mounted speaker.
- "S" meter, with 1 to 5 SINPO scale, plus standard scale.
- Coaxial, and wire antenna terminals for 2 MHz to

30 MHz. Wire terminals for 150 kHz to 2 MHz.

- 100, 120, 220, and 240 VAC, 50/60 Hz. Selector switch on rear panel.

- Optional 13.8 VDC operation, using DCK-1 cable kit.
- Other features include carrying handle, headphone jack, and record jack.

OPTIONAL ACCESSORIES:

- DCK-1 DC Cable kit.
- SP-100 External Speaker.

A remarkable GO ANYWHERE Receiver

With something for everyone. The digital frequency counter makes accurate tuning easy. Covers everything from Aeronautical and Marine Beacons through AM Broadcast, the entire Short Wave band, and on up through TV, FM Broadcast, Aircraft, Police, Ham, Marine VHF, to the UHF Public Service band. On Short Wave bands, a calibrator, BFO, Upper or Lower sideband switch, wide/narrow band width switch, RF gain control, and an antenna adjust control help you bring in those hard-to-tune stations. A light display switch allows you to turn off the dial light and digital display to conserve power when running on batteries. Truly a receiver that will offer a wide range of enjoyment for the whole family.



SPECIFICATIONS:

Semiconductors: 1-LSI, 4-ICs, 7-FETs, 34-Transistors,
1-Voltage regulator and 42-Diodes.

Frequency Range: LW 145 - 360 KHz VHF1 30 - 50 MHz
MW 525 - 1600 KHz VHF2 68 - 86 MHz
SW1 1.6 - 3.8 MHz VHF3 88 - 108 MHz
SW2 3.8 - 9 MHz VHF4 108 - 138 MHz
SW3 9 - 22 MHz VHF5 144 - 176 MHz
SW4 22 - 30 MHz UHF 430 - 470 MHz

IF: LW,MW,SW1 - 455 KHz VHF4 - 10.7 MHz
SW2-SW4 1st IF: 2 MHz 2nd. IF: 455 KHz
VHF1,2,3,5,UHF, 1st. IF: 10.7 MHz 2nd. IF: 455 KHz

Output Power: 5W (Max) 3W (10%)

Power Supply: AC 220V 50Hz. DC 12V (8 "D" cells). Ext. DC 12-14V.

Speaker: 12.5cm. Permanent Dynamic Speaker (3.2 ohm).

Antenna: Ferrite Bar Antenna for LW, MW & SW1,

3 Telescopic Antenna for SW, VHF & UHF.

GLOBAL

NR-82 F1 \$499

Terminals:

Ext. Speaker Jack,
Tape IN-OUT Jack,
V.UHF ANT. Connector (Coaxial),
SW Ext. Ant. Terminal (Screw),
Ext. Battery Jack.

Display:

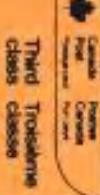
LW-SW4 Read-Out up to 1 KHz;
VHF1-VHF5 Read-Out up to 10 KHz;
452mm(W) x 288mm(H) x 130mm(D).

E

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see p.43

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TS-930S+SP-930

see p.2

HF TRANSCEIVER



R-600

COMMUNICATIONS RECEIVER

see p.46

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